YOUR ESSENTIAL DIGITAL BUYER'S GUIDE

WINTER

# SATELLITE & DIGITAL CHOICE

# SAT GOES DVD!

**WIN! A FREEVIEW ADAPTER**

The new generation of satellite receivers offers the best viewing choice ever

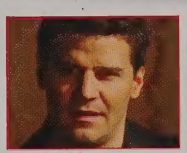
**FIXED** How to get digital TV on your PC

**IT'S A GIFT!**

TV gadgets you just can't live without!

**FEED ME**

Get more TV from your dish with a multiple feed system

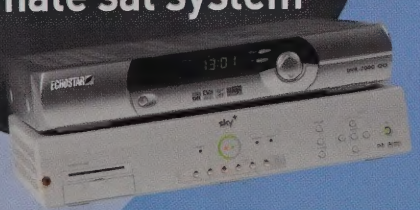


**ANGEL DELIGHT**

Buffy's boy returns to Sky One

**RULE THEM ALL**

We put together the ultimate sat system



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**DYNAMIC DUOS**

The top 5 dual-encryption receivers

**HARD COPY**

Hard disc recorders rated

**SATCRUISER**

Amazing LCD TV/sat combi

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# SMART SWITCHING

## THE TRILOGY RANGE

AUTOMATIC MULTI SCART SWITCHING

FULL RGB COMPATIBILITY

Do you suffer from the growing problem of plugging and unplugging the scart cables in order to connect your satellite, cable, Digibox, VCR, DVD players and recorders, games consoles etc to the limited compatible scart sockets fitted on most TVs?

Nearly all of the latest AV equipment offers you the option to output their signals in high quality RGB (Red, Green, Blue) mode. RGB is ideally the best quality signal, giving you stunning sharp pictures on any scart equipped European TV. Unfortunately most TV sets only have one, or sometimes two, RGB compatible scart sockets.

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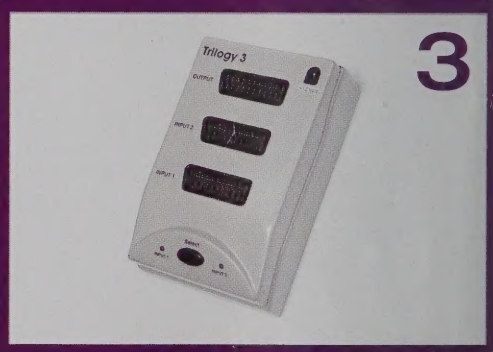
All of the "Trilogy" Range have hidden extras - they will support automatic widescreen switching and can be utilised for use with both S video and Composite video signals.



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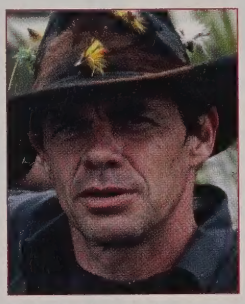
Rich Hall

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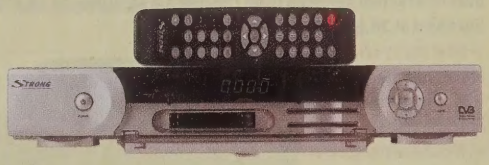

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# Get into digital

WHETHER IT'S DIGITAL TV THROUGH A SATELLITE DISH OR AN AERIAL YOU WANT, SATELLITE & DIGITAL CHOICE OUTLINES THE OPTIONS OPEN TO YOU

'Digital TV' has rapidly become one of the buzz-phrases of 21st century entertainment. It offers better pictures and sound (not to mention more channels) than ever before. You effectively have three basic options now if you want to watch digital TV. You can either: a) install a satellite system, b) get a Freeview adapter, or c) subscribe to your local cable provider, which will install all the equipment you need.

If you're happy with having a dish on the side of your house, then installing a satellite system will potentially get you hundreds of channels. Many people (close to seven million and counting) plump for Sky Digital in this case. There are now dozens of free channels receivable with a Sky Digibox from Astra's satellites, and subscribing to Sky will yield you many more.

Don't feel you need a Sky system to get the best from satellite TV, however. There are hundreds of digital channels beaming down from satellites over Europe and a digital receiver will get you many of these free, including all of the BBC's digital channels (although only Sky Digiboxes can be used to watch Sky Digital). If you buy a receiver fitted with a scrambling unit (called a Conditional Access Module), you'll be able to watch pay-TV packages from other European countries with the right viewing card obtained from a satellite dealer.

The really adventurous should invest in a multi-satellite system. These come with a moveable dish that can point at numerous satellite positions in the skies and get analogue and digital channels from across Europe.

If a dish is out of the question, a Freeview adapter connected to your TV aerial will potentially get you a package of around 40 TV and radio channels and, best of all, there's no subscription to pay.

Here are eight ways to join the world of digital TV.

COST: £50 UPWARDS

## SKY DIGIBOX

**What is it?** Lets you watch Sky Digital's TV and audio channels, plus interactive services from the Astra 2 satellites at 28.2°E and Eurobird at 28.5°E.

**How many channels can it get?** More than 180 from Sky, the BBC, Flextech and other UK broadcasters.

**What you need with it:** A 45cm dish or, if you live in SW Ireland or North Scotland, a 60cm dish. Cost is included in the price above.

**Cost to install:** Whole package costs just £50-70 if you subscribe to Sky. If you choose not to subscribe, Sky is obliged to supply the equipment free with a £120 installation charge.

**Bad points:** You have to pay to watch many stations, including ITV, Channel 4 and Five.

**Good points:** Easy to operate; no technical knowledge is needed.

COST: £99-£200

## FREE-TO-AIR DIGITAL RECEIVER

**What is it?** Lets you watch unscrambled digital TV and radio channels from across Europe.

**How many channels can it get?** About 70 from Astra 1 at 19.2°E, or up to 1,000 if used with a moveable or dual-feed dish.

**What you need with it:** 60cm dish or, if you live in Scotland or Northern Ireland, an 80cm dish. Costs around £60-£80 with universal LNB.

**Cost to install:** About £50.

**Bad points:** Cannot receive Sky Digital or other pay-TV packages because it contains no decoding unit (called a Conditional Access Module).

**Good points:** A cheap way to get lots of channels.

COST: £157-£400

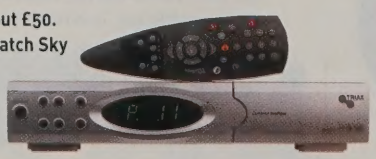
## DIGITAL PAY-TV RECEIVER

**What is it?** Lets you watch free European and pay-TV channels.

**How many channels can it get?** About 200 channels from Astra 1 and thousands if used with a moveable or multi-feed dish.

**What you need with it:** 80cm dish or, if you live in Scotland or Northern Ireland, a 1m dish. Viewing cards cost between £130 and £300. Conditional Access Modules (if required) cost about £100.

**Cost to install:** About £50.



**Bad points:** Can't watch Sky Digital

**Good points:** Lots of European pay channels around.

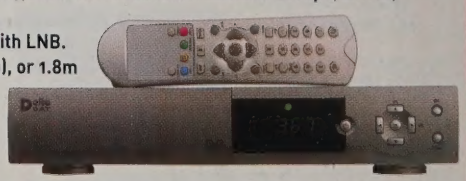
COST: £99-£350

## MULTI-SATELLITE DIGITAL RECEIVER

**What is it?** Comes with a moveable dish that points at lots of satellites, allowing you to receive just about any free digital satellite channels and raw news feeds.

**How many channels can it get?** About 3,000 from broadcasters across Europe, Africa, and the Middle East.

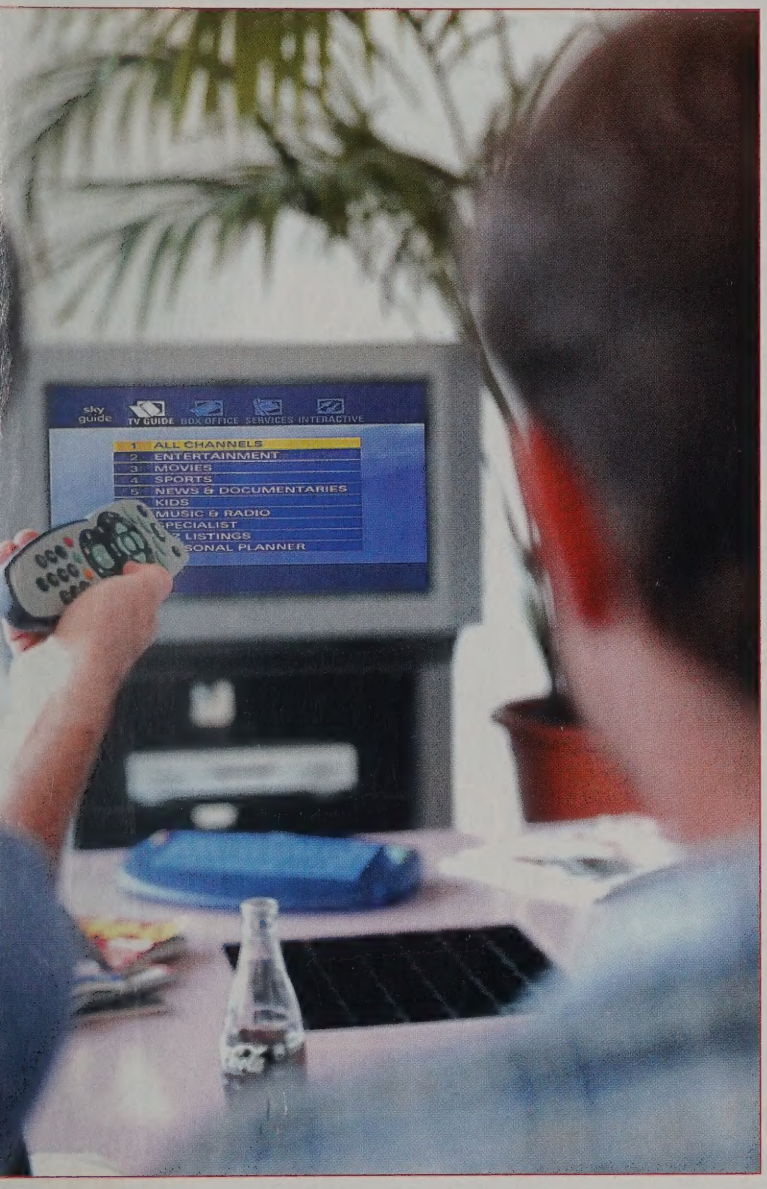
**What you need with it:** A large dish with LNB. Typical prices are 1m (£90), 1.2m (£160), or 1.8m (£350). Also requires a positioner to move the dish if it's not built into the receiver (costs from £80).



**Cost to install:** £100 - £200.

**Bad points:** Costly and requires a large dish to be installed on side of your house.

**Good points:** The ultimate satellite system. Lets you watch free channels from around the world, plus the UK channels (excluding Sky). Available in pay-TV and free-to-air versions.




COST: £249-£500

## DUAL FORMAT ANALOGUE/DIGITAL RECEIVER

»What is it? Lets you watch analogue and digital channels without the hassle of buying two separate receivers.

»How many channels can it get?About 400 from Astra or 4,000 if used with a moveable dish.

»What you need with it: 60cm dish or, if you live in Scotland or Northern Ireland, an 80cm dish. Costs about £60-£80 with universal LNB.

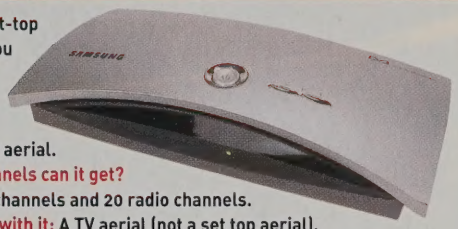
»Cost to install: About £50.

»Bad points: Cannot receive Sky Digital or Sky's analogue channels because it contains no decoding unit (called a Conditional Access Module) unless you buy a high-end priced system.

»Good points: Gets you the best of analogue and digital satellite TV.

COST: £60-£130

## FREEVIEW ADAPTER




»What is it? A set-top box that allows you to receive digital terrestrial channels when connected to a TV aerial.

»How many channels can it get?
More than 30 TV channels and 20 radio channels.

»What you need with it: A TV aerial (not a set top aerial). Should be in good condition and preferably be roof-mounted.

»Cost to install: Those in weak signal areas may need a high-gain TV aerial which may cost upwards of £150 to install.

»Bad points: Currently only three-quarters of the UK is covered by digital terrestrial transmissions and there's no guarantee you'll be able to receive all channels.

»Good points: No subscription required.

COST: £199-£900

## PVR

»What is it? A digital satellite receiver or digital terrestrial adapter with a built-in hard disc drive. Allows digital quality recording without videotape and includes special trickplay features.

»How many channels can it get? Satellite PVR receivers can get anything between 200 and 4,000 channels. Freeview PVRs like the Pace Twin Digital TV recorder can get around 40 TV and radio channels.

How much can it record? Around eight hours can be stored on a 10GB hard drive at broadcast quality. The average capacity is 40GB.

»Cost to install: £100 with an 80cm dish: up to £250 with a motorised 1m dish. Sky Plus requires a 45cm dish and twin LNB, costing £50.

»Bad points: Can be expensive. Sky Plus has a £10 a month subscription charge unless you subscribe to more than one of Sky's premium channels.

»Good points: Perfect recording quality, pause live TV, programme direct from the EPG. Certain PVRs can also store MP3 music files.

COST: £400 UPWARDS

## INTEGRATED DIGITAL TELEVISION

»What is it? A widescreen TV with an onboard digital terrestrial tuner for Freeview channels. Some (like the Panasonic DTS3) also feature an integrated Sky Digibox. Known as an IDTV for short.

»How many channels can it get?
More than 30 TV channels and 20 radio channels from Freeview. With an integrated Digibox, about 180 from Sky, the BBC and other UK broadcasters.

Spy Kids 2 on Sky Box Office, courtesy of BSkyB

»What you need with it: For Freeview you need a TV aerial. If it has Sky Digital, 45cm dish or, if you live in South-West Ireland, or northern Scotland a 60cm dish.

»Cost to install: With Sky Digibox, £50 and £70 if you subscribe to Sky, £120 if you don't.

»Bad points: An integrated Digibox restricts you to watching channels from the Astra 2 satellite position, many of which have to paid for.

»Good points: Easy to operate, one box fewer in the living room.

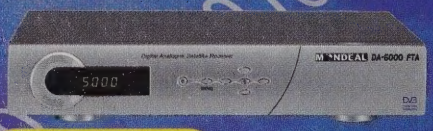
# MONDEAL

www.mondeal-digital.co.uk

**MONDEAL 2100CI Gold**
4000 Channels 2 Cam Slots Easy to use menu DiSEqC 1.2 Motorised receiver

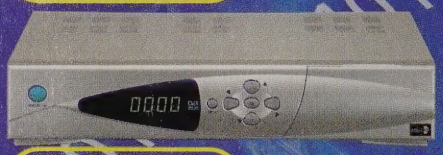
**£139.00**

**MONDEAL AD-6000FTA**
Digital+Analog Free to Air receiver DiSEqC1.2 BUILT IN POSITIONER



**£159.00**

**MONDEAL DAPCI-9900 EXPRESS**
Digital+Analog+2CI+2Positioners DiSEqC1.2 & 36Volt 4 Wire



**£215.00**

**MONDEAL 7500-2 VIACCESS 2CI (NEW)** compact size 4000 channels 2Card readers 2 Cam slots High speed channels change and downloads DiSEqC 1.2Built in positioner Friendly Menu graphics

NEW!

**£169.00**

**MONDEAL CXCI-9800 MAGIC**
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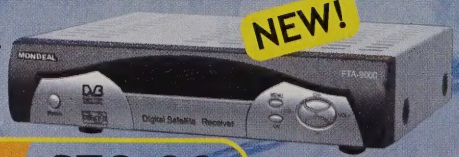
Free to Air receiver 5000 Channels 2Scarts UHF Modulator DiSEqC 1.2 Motorised Dolby digital output

NEW!



**INTRODUCTORY SPECIAL OFFER £79.00**

**MONDEAL 9200FTA** Free to Air receiver 4000 Channels 2Scarts PnP Graphics Games embedded DiSEqC1.2 Motorised Dolby digital o/p

**£95.00**

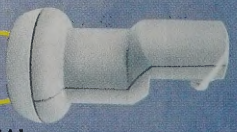
**MONDEAL DiSEqC MOTOR HH100**

**£75.00**

**MONDEAL DISHES All sizes available prices start from £19.00 with wall mount.**

From **£19.00**

**MONDEAL UNIVERSAL SINGLE LNB Premium quality 0.5db Noise figure best signal level.**



**£25.00**

**MONDEAL UNIVERSAL TWIN LNB Premium quality 0.5db Noise figure best signal level.**

**£45.00**

**MONDEAL UNIVERSAL MONOBLOCK LNB As above DiSEqC 1.2 For HOTBIRD & ASTRA**

**£35.00**

**Best prices available for wholesaler & Installers.**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SATELLITE & DIGITAL CHOICE KEEPS YOU UP TO DATE WITH THE LATEST DEVELOPMENTS IN DIGITAL TV

# Slight return for Solus

**Britain's commercial free-to-air channels have struck a deal with Sky to sell viewers a one-off viewing card.**

Viewers with free-to-air cards have been referred to a special helpline where they will be able to buy a viewing card for £23.50.

About 750,000 satellite TV viewers who don't subscribe to Sky were expecting to lose signals from ITV, Channel 4 and Five this autumn.

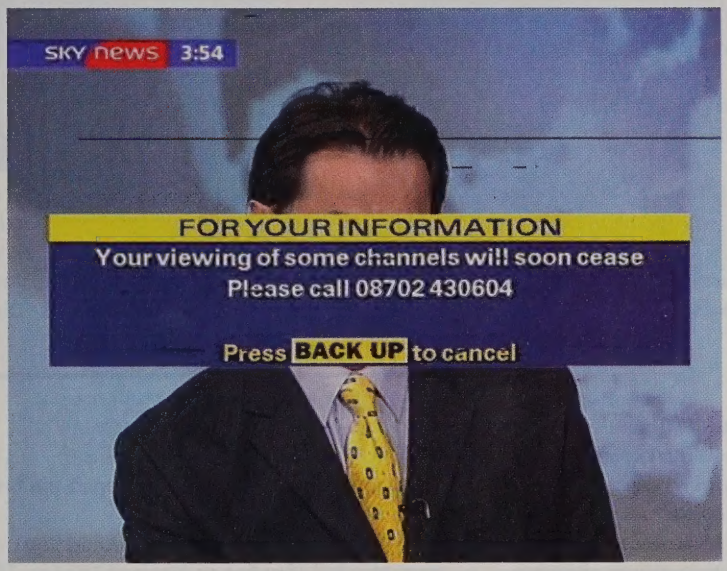
The BBC stopped paying Sky for their free-to-view Solus cards when it dropped encryption and moved to Astra 2B in July.

Sky was expected to switch off most of the cards over the summer as it moved to an upgraded encryption system.

Despite onscreen warnings, cards continued to work after the late August switch-off date.

The government later revealed Sky promised not to turn off the viewing cards while it was negotiating the deal with the commercial free-to-air channels.

The new Solus cards will last until Sky's next card upgrade cycle, or at least two years if the next upgrade is sooner (this year's upgrade was the first in five years).


SKY news 3:54
FOR YOUR INFORMATION
Your viewing of some channels will soon cease
Please call 08702 430604
Press BACK UP to cancel

**'The BBC's original Solus operation cost the corporation £12 a viewer each year'**

However, under the terms of the agreement, the new cards are only available until December 31, 2003.

The BBC's original Solus operation cost the corporation £12 a viewer each year, which allowed it to save £85million over five years by going free-to-air.

It's not known how many former Solus card viewers had signed up to a special low-cost Sky subscription when Sky threatened to switch off their viewing (pictured).

The new Solus card can be obtained by calling 0870 054 1800. For more details see http://www.free2view.tv/.

# Take Manhattan

**Manhattan has launched the first models in its new Plaza range of satellite receivers.**

The £99 Plaza 1100 FTA is the basic model, a free-to-air receiver with DiSEqC 1.2 and USALS motor control.

There's memory for 4,080 channels across 50 satellites, full channel editing, and Dolby Digital support via an optical output.

The Plaza 3300 CI, priced £150, adds a twin common interface to the basic chassis, and both models support over-the-air software upgrades.

The Plaza receivers are also designed to support advanced DVB-MHP interactive services and programme guides.

**Eurosat Distribution, 020 8452 6699, http://www.manhattan-digital.com**

## NEWS SHORTS

### SKY UPS SUBS

Sky subscription prices are set to rise by 5 per cent in January. The top tier Sky World package will cost £40, up from £38, and the family package increases from £18.50 to £19.50. The worst-hit subscribers will be those on the Sky Sports World package, which rises from £31 to £35.50, to pay for Sky's £1 billion Premiership football deal. See page 93 for more price details.

### VOYAGER BEAMS ON

NASA has confirmed the 27-year-old Voyager 1 space probe is still sending data, having just reached 90 times as far from the sun as the Earth is. It's entering a region called the termination shock, where our solar wind meets the cosmic winds of interstellar space.

### BLANK CARDS OUTLAWED

Denmark has ruled the sale of blank viewing cards by satellite TV dealers illegal in a bid to thwart pirate cards. The High Court upheld a restraining order against a dealer who admitted selling 2.7million blank cards, but claimed they were for home security 'locking systems'.

### RADIO STAR

America's XM Satellite Radio service now has more than a million subscribers. The system has hit the million mark faster than any new entertainment technology in the past 30 years, with the exception of DVD, in just one year and 11 months.

### INDIA JOINS GALILEO

India has joined Europe's Galileo satellite global positioning project. India's £200million investment in the civil-controlled system was announced just weeks after China signed up to a £120million contribution.

# CHANNEL SCAN

## FX FIXED FOR SKY

**Shows for the grown-up man from Comedy Central, HBO and Warner Bros will dominate the schedules of FX when it launches on Sky Digital in January.**

**Main series will include Comedy Central's The Man Show, The Mind Of The Married Man from HBO, and dark comedy Lucky from FX in America.**

**The Man Show is Comedy Central second-highest rating series, described as 'a brazenly chauvinistic, comedic celebration of all things male.**

**Critically acclaimed, The Mind Of The Married Man looks at marriage from a male perspective, and Lucky follows the fortunes of a recovering gambling addict.**

**FX is hoping to tap into a generation of men aged 25 to 44 who are tired of the laddish stereotype but want male-focused entertainment.**

## CHAI ON HOT BIRD

**Chai TV is the world's first global Jewish TV station, and it is broadcasting free-to-air into Europe via Hot Bird at 13°E.**

**The channel is heavily news-based, with seven hours of current affairs daily and correspondents in Paris, Jerusalem, and throughout the Middle East. It also carries current affairs and historical documentaries, weather, business news, programmes about life in Israel, and because it's based in Paris. programmes about French life and culture.**

**Chai TV can be found at 13°E, on 11.623GHz/V, SR 27500, FEC 3/4**
**Chai TV, http://www.chaitv.fr**

## SKY BOOSTS FOREIGN CHANNELS

**Foreign broadcasters are queuing up to join the Sky Digital line-up from as far away as Brazil.**

**Record TV, a general entertainment channel based in Sao Paolo, Brazil, and broadcasting in Portuguese, has joined the Sky Guide at 830.**

**As well as news from around Brazil, Record TV has soaps and telenovellas, variety shows, sports round-ups, children's programmes and magazine shows about Brazilian culture.**

**Record TV is a free-to-air channel, and you can pick it up without a Digibox on 11.390GHz/H, SR 27500 FEC 3/4.**

**TVE International joined the line-up on November 3, as part of the basic subscription package. TVEI is an international version of Spain's main state TV channel, carrying news, entertainment, drama, music and comedy, but without domestic sports.**

**German international news channel Deutsche Welle TV is testing, ready to join the Sky Digital EPG before the end of 2003.**

**DWTV is a multi-lingual news channel already available on Astra 1, Hot Bird, and many other satellites worldwide.**

**TVEI and DWTV are both encrypted, and are only joining Sky as part of a pilot programme for schools, which is currently scheduled to end in July 2004.**

**Dozens of new channels are waiting for Sky to assign a position in the EPG, some facing a nine-month wait for a listing.**

**Lined-up for early next year include The Horror Channel and Amore, a romance channel, Jazz FM TV, and the long-awaited Soundtrack Channel.**

**We can also expect Move TV, based on buying property and moving house, a horoscopes channel, and the South African channel NSAT TV.**

# Sky Movies at your convenience

**Movie premieres on Sky Movies now have staggered starts without wasting channels using Sky's new multi-start system.**

The new format launched on November 15 with *Star Wars: Attack Of The Clones*. Alongside the premiere on Sky Movies 1, viewers could turn to Sky Movies 3 and press the red button to pick from start times every 15 minutes.

The new-look Sky Movies also has independent movie reviews for every one of its 200-film back catalogue, along with a five-star rating system.

Sky Cinema has also been given a boost, with a series of world cinema premieres and seasons based on actors and directors, starting with a Charlie Chaplin season in December.

# 3D TV on the way?

**An American company has developed the first screenless three-dimensional video display for the consumer.**

The Heliodisplay projects a 27in widescreen picture into thin air, with a 200:1 contrast ratio and 16million colours and 1024 by 768 pixel resolution.

The prototype image is only visible from one side, but it can be used as a touch-screen display for interactive computer applications.

Future versions will have images up to 150in, high-definition TV resolution, a 300:1 contrast ratio, and will be visible from all angles.

They will even be able to show 3D images different from every viewing angle, or several different images to different people.

Developer IO2 Technology won't say how the Heliodisplay works, but insists it is not holography because it doesn't use lasers, just the properties of moist air.

Commercial versions are expected to cost the same as plasma displays.

# Wizard receivers

**Wizard Satellite has launched the Fortec Star range of receivers into the UK.**

Models include the Lifetime FTA for free-to-air channels, and the Magicworld Plus, with a built-in Magic CAM.

The Fortec Star Lifetime FTA has memory for up to 5,000 channels, and DiSEqC 1.2 motor control with USALS support.

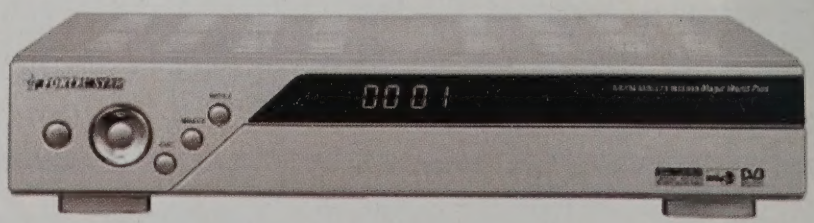
Priced £99, it's also got an S-video output and digital audio output with Dolby Digital support, plus a wide symbol rate range of 2000-45000.

The Fortec Star Magicworld Plus costs £269 and adds a twin common interface and embedded multi-encryption Magic CAM to the basic specification.

It's also got a traditional 36V positioner, and extra memory for up to 3,600 TV and radio channels.

Wizard also offers the Fortec Star Platinum, with twin CI slots at £145, and the £189 Fortec Star 5600 Plus with an embedded Conax CAM.

**Wizard Satellite, 01455 444404,**
**www.wizardsatellite.co.uk**



# High def nears launch

**Euro1080's high definition general access TV channel will be encrypted when it launches on January 1.**

Viewers will be charged a one-off fee of around £70 for a viewing card to watch the channel from Astra 1 at 19.2°E.

The first set-top boxes are expected to arrive from manufacturers such as Thomson, Pioneer, Panasonic, and Humax by the end of 2003.

Costing around £500, the boxes will be capable of decoding most HDTV formats, as well as showing standard definition TV channels.

The Euro1080 main channel launches on January 1 with the traditional Vienna News Year's Day concert, plus around four hours of other material, building up to a full 24-hour schedule of sports, concerts, and possibly movies.

■ Astra has hinted that it will be encouraging further high-definition broadcasts, like Euro1080, to encourage the fledgling HDTV industry. Enthusiasts with well-equipped PCs can tune in now to free-to-air HD feeds on Astra 1, plus occasional HDnet feeds from America on PAS 3R at 43°W.

The Astra 1 feeds are at 12.168 GHz/V, SR 27500, FEC 3/4.

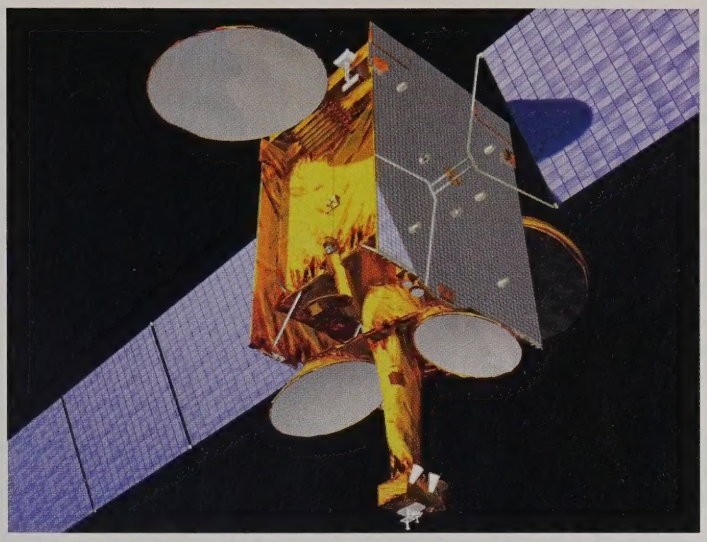
There's a Euro1080 loop with PIDs 308/256/8190, and a Windows Media 9 stream with PID 1521.

The PAS 3R feeds are at 12.536GHz/V, SR 28080, FEC 3/4, with PIDs 33/36 and 49/52, schedule details at www.hd.net.

View is currently confirmed with a 1.5GHz or faster PC using a Skystar PCI, Twinhan and Broadlogic cards.

You'll also need ProgDVB (http://www.progdvb.com) or Hans' DVBapps software (www.dvbapps.com), and suitable decoders, such as Elecard (www.elecard.com) or Sonic Cineplayer (www.cineplayer.com), or even Windows Media Player 9 (www.microsoft.com/windows/windowsmedia/players.aspx).

You will also need a component or digital video output card, if you want to watch the feeds on a high definition plasma screen without a suitable VGA input.



# Hellas 2 ready for Olympics

**Greece's first purpose-built satellite has started broadcasting from 39°E in preparation for next year's Olympic Games.**

Channels broadcasting on Hellas Sat 2 include Antena Pacific and Alpha International and versions of Greece's main terrestrial TV channels.

There's also MKTV Sat from Macedonia, and a bouquet from national broadcaster OTE including ERT Sat, Cyprus Sat, and RTS Sat from Serbia.

More channels are expected to arrive soon on Hellas Sat, which was designed to help Greece broadcast full coverage of the 2004 Olympic Games in Athens.

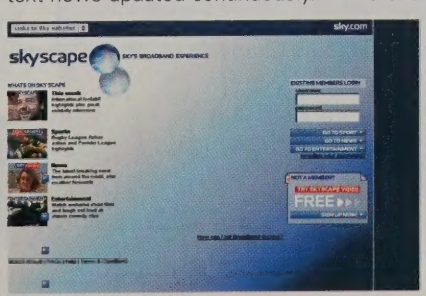
# Scape for Sky

**Broadband internet users can now keep up with Sky News, Sky Sports and exclusive entertainment content through the Sky Scape website.**

Entertainment includes comedy clips from Paramount, short films from some of Britain's leading independent directors, showbiz gossip and movie trailers.

More videos, games and other exclusive material are expected to join the entertainment service this year.

Sky News Active Online offers an online mirror of the Sky News Active TV service, with video and text news updated continuously.




The Sky Sports Active Online section offers highlights and replays including Premiership football, UEFA Champions League, European Tour Golf, Test and One-Day cricket.

All three sections include a free feed, such as the main Sky News channel, and clips are broadcast at 112kbit/second or 384kbs to suit your connection.

The service is Sky's first venture into online subscription costing Sky subscribers £4 a month after a free two-month trial, or £30 a year.

Non-subscribers can sign up for a one-month free trial, followed by a £5 monthly or £40 annual subscription.

Sky has also extended its £27-a-month broadband access deal with BT for Sky subscribers, including a free modem, connection, and free access to Sky Scape for a year.

## NEWS SHORTS

### ON THE TILES

The next generation of flat satellite TV and broadband antennas may be based on fractal tiles. Made of apparently irregular, but actually self-similar, repeating units, the antennas built of the tiles produce high gain signals than current flat antennas.

### LASER LINK-UP

Experimental European satellites have established the first data link using lasers. Separated by 30,000km and moving at very different speeds, the Artemis and SPOT 4 satellites established repeated 50Mbit links to download SPOT 4's data to the ground.

### DISNEY BACKS BBC

Disney has told the BBC it is happy with the decision to broadcast free-to-air by satellite. Buena Vista Distribution has several licensed movies including *Pirates Of The Caribbean, Chicago* and *Calendar Girls* to the BBC, and said it is happy with the level of overspill into mainland Europe.

### DTV TOO COMPLEX

Up to two million people will not take up digital TV because it's too complicated and too similar to using a PC. A government study found that even changing channels could be too difficult for those used to the simplicity of analogue TV, and also singled out wide differences in accessing subtitles and EPGs.

### OH, BROTHER

British-based Swedish satellite channel Kanal 5 has been ordered by the ITC to broadcast an apology for unsuitable material. The channel broadcast sex, nudity, bad language, smoking and drinking during the Swedish version of *Big Brother* that the Independent Television Commission said was not acceptable for its 7pm pre-watershed slot.

# Sky all-in-one

**Sky has made a bold play to dominate your living room by offering the complete home entertainment system.**

Designed to complement Sky Plus, the Sky Home Entertainment System comprises a 42in plasma screen and an all-in-one home cinema system.

The plasma screen has a contrast ratio of 1000:1 and a pixel resolution of 852x480.

Connections include component videos inputs, two Scarts, an S-video input and a VGA/DVI input.

The home cinema system comprises a surround speaker system with a total output of 300W RMS and a combined DVD player/AV receiver.

The latter comes with a built-in Dolby Digital 5.1 decoder and supports playback of DVD/+R/+RW/-R/-RW discs as well as VCD/SVCD/CD/CD-DA/CD-R/CD-RW formats including those with MP3, WMA and JPEG files. It also has component video and optical digital audio outputs and an AM/FM RDS radio tuner.

The system comes with a three-year parts and labour warranty and costs £3,750 plus £78.50 for delivery and installation. Buyers receive a £200 rebate if they choose to buy and subscribe to Sky Plus.

sky guide 2.01pm Fri 24 Oct
ALL CHANNELS
Today 1.30pm 2.00pm 2.30pm
101 BBC 1 London
102 BBC 2 England
103 ITV1 London
104 Channel 4
105 five
106 Sky One
107 Sky One Mix
109 UK Gold
110 UK Gold +1
111 UK Gold 2
Neighbo.. Doctors Murde..
Jane Eyre
Today with Des a.. Moving Day
Little House On T.. Channel 4 atther..
Brainteaser At The..
TV Years Heart – Throbs And Pin..
X – Files Stargate..
Weakest L.. My Hero EastE..
..programmes start at 6.00pm
..programmes start at 7.00pm
Page Up Page Down 24 Hours 24 Hours
Press SELECT to view or ® to record

The plasma screen can also be bought separately for £3,500 and wall-mounting brackets are available for it costing £100. A stand for the system, manufactured by Alphason Designs, can also be purchased from Sky Buy for £350.

**Sky Buy, 0870 555 111, www.sky.com/skybuy**

# Disney addition for Freeview

**A daytime entertainment channel will be launched on Freeview by Disney before the end of 2003.**

The new channel will broadcast from 6am to 6pm, with a mixture of soaps, drama, comedy and sport not previously shown on British TV.

It's likely to be similar to the daytime output of America's ABC network, which is owned by Disney, including shows like *General Hospital* and *The Wayne Brady Show*.

But the as-yet-unnamed channel won't carry the Disney brand, and won't be a children's channel.

It's likely to launch later on Sky Digital and cable, although Disney would not reveal whether the channel will ultimately run a full 24-hour schedule.

■ CBM has revived its plans for a Freesport channel on Freeview after signing deals with 12 national sports bodies. Freesport hopes to show minority sports like rowing, swimming, badminton, canoeing, cycling and netball. CBM first attempt to launch a channel was scrapped this summer when Crown Castle cancelled its contract because plans were moving too slowly.

# Technisat launches PVR

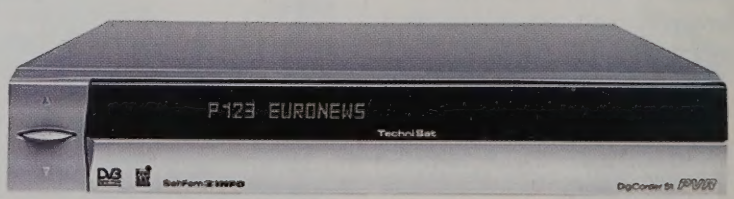
**The Digicorder is the first personal video recorder from Technisat, featuring a hard disc of up to 80GB.**

The Digicorder S1 is supplied with either a 40GB drive (priced £239) for recording up to 30 hours of TV at best quality, or the 80GB drive (£279), which can store up to 60 hours.

Recordings can be programmed using Technisat's own SieFernInfo electronic programme guide, which carries 14 days of information and is updated daily.

The Digicorder S1 has a single common interface slot, and memory capacity for 4,000 TV and radio channels. Other features include teletext, and optical and coaxial digital audio outputs with Dolby Digital 5.1 support.

**Sat Europa, 0845 130 3111, http://www.sateuropa.co.uk**



# Dual action Pioneer

**Pioneer's latest combined DVD and hard disc recorder comes with a whopping 80Gb hard drive capable of storing up to 102 hours of programming.**

The DVR-5100H-S also has a built an analogue TV tuner and supports the DVD-R and DVD-RW recording formats as well as playback of CD/CD-R/CD-RW (including MP3 and WMA files) and VCD discs.

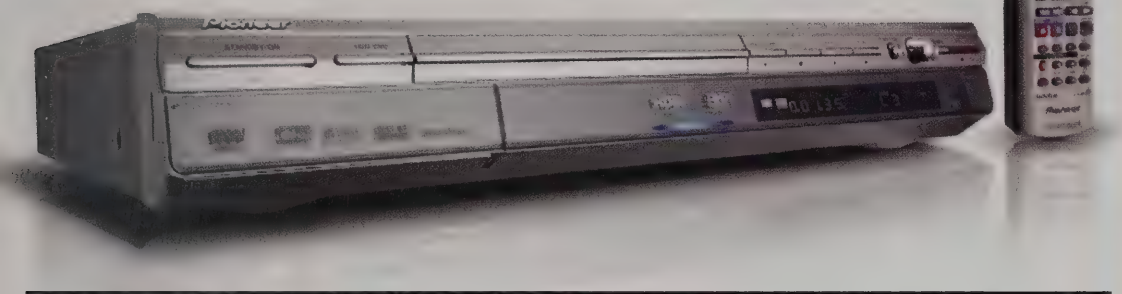
Simultaneous recording and playback (either from the hard disc or a DVD) is also possible, and you can copy to DVD from the hard disc with a single button press.

There are four recording quality modes, plus the option to select your own quality variations in 32 steps.

A thumbnail-based Disc Navigator interface can be used to record, edit and playback footage there's a Photo Viewer for displaying JPEG image files. Other features include a manual timer and an iLink input for transferring camcorder footage.

The DVR-5100H-S is available now priced £900.

**Pioneer, 01753 789500, www.pioneer.co.uk**



# Big boys back broadband

**Eutelsat and Astra are backing new dedicated satellite broadband for Britain from 28°E and 33°E, from AVC and BeyonDSL.**

BeyonDSL will be the first one-way sat-internet service on Eutelsat's new Ebird satellite when it comes into action at 33°E later this year.

Users will need a 60cm dish with a multiple-output monoblock LNB, enabling simultaneous reception of Ebird at 33°E and Astra 2/Eurobird at 28°E.

BeyonDSL offers burst speeds of up to 2Mb/s, with two tiers averaging at 400kb/s and 200kb/s, and a 'best effort' bottom tier.

The capacity available to users at on the top tiers will depend on their subscriptions, which start at £20 a month for 300MB to £130 a month for 4GB.

BeyonDSL also includes video streaming of MPEG4 TV channels and offline push content including top websites, video clips, games and more.

The service is being supplied by Eurosat, which also offers installation and a choice of USB or PCI receivers.

AVC's service is available through a standard Sky dish with a quad-output LNB, priced £30 a month for 512kb/s average speeds and unlimited download capacity.

The service will also offer higher download speeds to heavy users, through transponders on both Astra 2A and 2B.

**AVC, 01438 794100, www.avc-ltd.co.uk**

**BeyonDSL, 020 8452 6699, www.beyondsl.net**

# Sat on PC

**Hauppauge's plug-in USB digital receiver range has been expanded with the DEC-3000s for satellite.**

The £130 receiver connects to your PC via a USB cable, allowing you to watch and record direct from satellite.

The software includes EPG support and timer for recording, and supports DiSEqC 1.0 LNB switching.

The DEC-3000s has a built-in programmable viewing card slot for use with viewing cards from subscription channels.

It also has a built-in Scart output and remote control, for connecting direct to a TV if you want to watch on a full-sized screen.

**Hauppauge, 020 7378 1997, http://www.hauppauge.co.uk**

## NEWS SHORTS

### TELSTAR IS AWOL

### DTV 'MICRO' CHIP

### SATDRIVE ROLL OUT

### JAPAN LAUNCH IMMINENT

### DTT RADIO BOOST

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DECEMBER 19TH

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# ARE YOU MAD ABOUT TELLY?

## TV MONTHLY LISTS OVER 140 CHANNELS

## PLAN YOUR WHOLE MONTH'S VIEWING BEFORE ANYONE ELSE!

The magazine formerly known as Satellite TV Europe

GOT AN OPINION TO SHARE? WRITE TO SATELLITE & DIGITAL CHOICE EDITOR GRANT RENNELL AT 53–79 HIGHGATE ROAD, LONDON NW5 1TW, OR SEND AN E-MAIL TO WVBETSAT@.AOL.COM

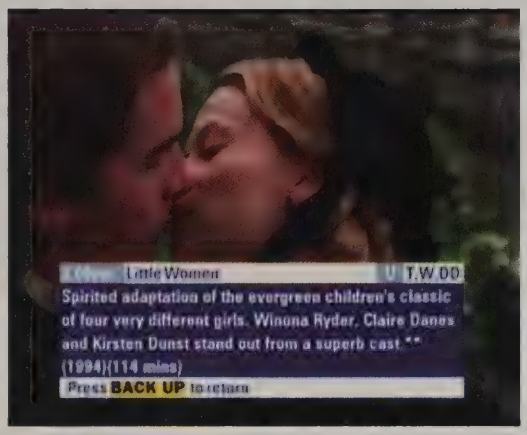
# Dolby disappears

I recently purchased a Sky Plus box, partly because I wanted to enjoy the Dolby Digital from the movie channels. I now find that Sky now appears to have stopped Dolby Digital broadcasts on its Box Office movies, though it is continuing with them on Sky Movies.

As Box Office movies are pay-per-view on top of my subscription, I find this very annoying. Surely we should be getting the best possible service from these channels?

As a consequence I now stick to renting movies on DVD for less money than it costs to watch them on Box Office. And I don't have to wait for them to come on either!

**– Darren Davies, via e-mail**


Little Women
T.W.00
Spirited adaptation of the evergreen children's classic of four very different girls. Winona Ryder, Claire Danes and Kirsten Dunst stand out from a superb cast.**
(1994)(114 mins)
Press BACK UP to return

Dolby Digital broadcasts are currently on Sky Movies only

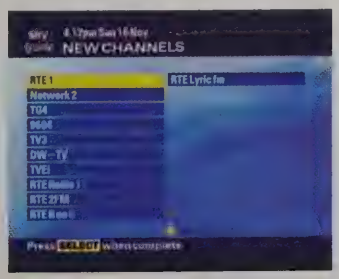
***■ Good news, Darren. Sky informs us that it will be bringing Dolby Digital back to Sky Box Office but at present it only has enough Dolby Digital transmission equipment for the Sky Movie channels. Backroom equipment for the Box Office channels needs upgrading and no decision has been made as yet on when to do this. By the way, where are you managing to rent DVDs for half the price of Box Office? Please tell us!***

## The other Irish problem

I wonder if you can help me. I want to be able to receive the Irish state channels in the UK which are currently being broadcast in the Republic of Ireland. I have tried adding the relevant channels to my Digibox but all I get is a blue screen.

If I purchase a Sky system in the Republic of Ireland, can the card be used in a UK Sky Digital box, or would you need the Irish card and box together to receive the Irish channels in the UK?

**– Tim Andrews, Melton Mowbray**




Eire channels: tricky to get

***■ The channels you want (RTE1, RTE2, TV3 and TG4) are all part of the Sky Digital network on Astra 2D at 28.2°E. However, these channels are encrypted and not available to residents of the UK and Northern Ireland. A card registered to an address in the UK will automatically block reception of these channels, leaving you with a blank screen. The same goes for viewers in Ireland who also have some UK channels blocked.***

***To get Irish TV in the UK you need to order a card from an Irish address. You should not buy a new Sky system in Ireland. The Digibox you use should be secondhand and out of contract, which means there'll be no requirement to plug it into the phone (otherwise Sky would easily learn that the Digibox is not in the Republic!).***

***You then need to apply to Ireland for a viewing card, fill out the contract and pay with a direct debit to their account or from an account in your name in the Republic.***

***When the card arrives, ideally you should get your Digibox temporarily installed in Ireland and have your friends phone up Sky to get the card activated. The box and card can then be shipped to you in the UK.***

***Another solution is to install the Digibox in the UK, install the card forwarded from Ireland and get your friends to call Sky and pretend the system is there in front of them. This can get tricky and is best achieved by having a second phone link from your friends so you can relay the onscreen numbers that Sky will want and carry out the instructions manually.***

## Solus solved?

A brief but noteworthy article on the matter of a free-to-view solus viewing card appeared recently in our local weekly newspaper. In your response to Steve

## QUICK QUERIES

**I live in Cardiff and I want to buy a dish capable of receiving the Arabsat satellite, but I can't install a 1.2m dish on the building I'm living in, so I wonder if there are 0.6m to 0.8m dishes made of something special in the same quality of the normal 1.2m dishes.**
**– Muhammad Warda, Cardiff**

***■ Sorry, but there's no way of making a dish so that a 60cm model will perform like one twice the size. If that were possible then not only would everyone be using a 60cm dish for Arabsat but we would have 23cm dishes for Sky, and so on!***

**If I put a satellite dish in my loft, will it work?**
**– Steve Charles, via e-mail**

***■ Afraid not. The signals from a TV satellite are at a completely different frequency to those from a terrestrial TV transmitter and unlike these, cannot pass through roof tiles, walls and trees.***
***There are several types of plastic that don't stop the signals and you could convert a section of your roof either to a plastic glazed window or even get lookalike tiles made from plastic, and site the dish behind this section. However, that would be costly and you'd still need at least a 1m dish to compensate for signal loss.***

**Can I extend my 8ft dish to a 12ft dish?**
**– John Peters, via e-mail**

***■ Again, no. The feedhorn at a dish's focal point is designed to see a particular size and shape of dish, so although an extended dish may collect more signal, the LNB won't make any use of it. You could move the LNB farther from the dish so it sees a wider area of reflector, but then it won't be at the focal point so the signal will actually be weaker.***

**'Friendly TV may be as cheap as they come, but it's giving people what they want'**

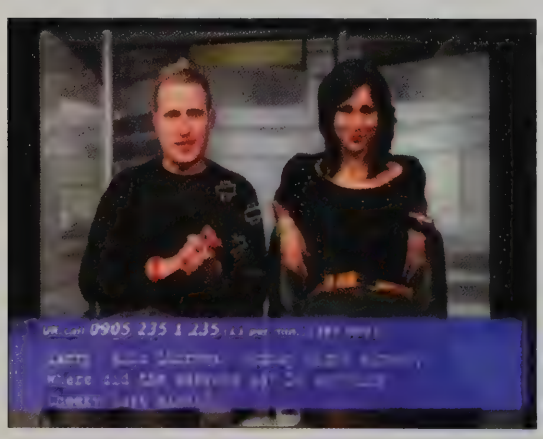
Ellis's letter on the subject (Autumn 2003 issue) you mentioned a possible 'chink of light' on the horizon. It does look likely that a 'doorway' has opened up that will satisfy most Digibox users. Perhaps your Winter issue will be able to expand on the details?
**– K.J Viney, Carmarthenshire**

■ ***As you will have spotted in our Newsfeed section (see page 7) an agreement has been reached to provide a Solus replacement for the many people who've either lost, or been threatened with losing access to the soft-encrypted ITV1, Channel 4 and Five following the BBC's decision to go free to air. Unfortunately, it's a disappointingly short-lived solution to the problem.***

***Although the appearance of the new two-year card will be welcomed by the hundreds of disgruntled free-to-air Digibox-owning readers, the fact that the agreement between ITV1, Channel 4, Five and S4C and Sky means that the card will not be available after December 31, 2003 (glossed over in many media reports) may come as bad news to many. Especially if they're reading this in January!***

## Satisfaction guaranteed

**Friendly TV: is it so bad, it's good?**



I've been trying to get the Satisfaction adult channel from Eurobird using my Sky minidish but all I get is continuous picture and sound break-up, whereas my Sky reception is perfect. My minidish currently has a quad LNB featuring two Sky receivers and a Humax receiver which is capable of receiving other channels and seems to be working OK.

Can the channel be received by a standard mini-dish or do I need something bigger?
**– Keith Stuart, via e-mail**

■ ***SCT is indeed broadcast from Eurobird 1 at 28.5°E using the S2 spot beam. However, this is centred on Germany and signals are weak in the UK so, yes, you will need a bigger dish.***

***You don't give your location but the signal should be receivable with a 60cm dish across most of the UK. Viewers in Wales, the South-West and the north-west of Scotland will need a 70cm dish. Because the channel is encrypted in Viaccess 2 and Irdeto it's out of bounds to Digibox owners, however.***

## 'Friendly' firing

I must say that I'm really loving Friendly TV at the moment. Particular highlights for me (there's so much to choose from!) have been the daytime chat girl arriving late and hanging up her coat while the station is on air and GamerWeb TV which has enough cock-ups to make even Game Network look good.

What's really good is just how interactive the channel is. It asked people to text in or e-mail suggestions for improving the channel and it seems to have actually listened to the feedback. As a result, I've been enjoying late-night showings of NASA TV, which I assume are coming via a high-speed internet feed.

The same goes for its airings of The Landscape Channel, which I fondly remember watching on cable a few years ago.

Friendly TV may be as cheap as they come, but it's giving people what they want. Surely that's what multi-channel TV should be about?
**– Greg Vincent, Weston-Super-Mare**

■ ***Great to see such 'genuine' enthusiasm for an often derided multi-channel minnow. Does anyone out there feel the same about Gamenation 277?***

# Technomate

*Your Digital Partner for Life*

WHAT Satellite TV AWARDS 2003

# Fastest Digital Satellite Receiver

FREE TO AIR SATELLITE RECEIVER

"The budget satellite champion is back with an upgrade . . . a new digital friend" What Satellite TV, Dec 2003

£99

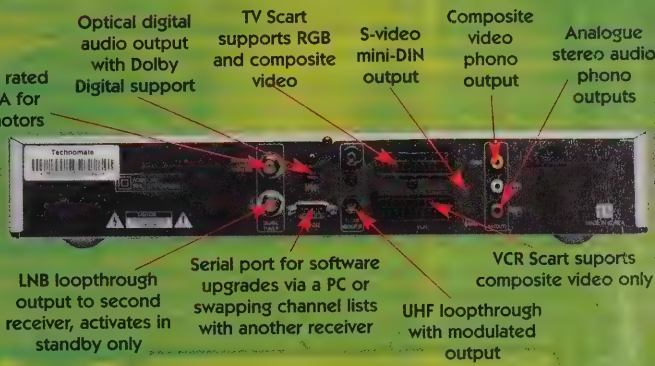
## TM5500D

TM5500D – DIGITAL SPDiF 5.1 Optical output – SVHS-RF modulator

### Features

One of the FASTEST Satellite receivers ever
8 MB SDRAM MEMORY
Dual axis incline & decline & E/W 2 positioner in DAPCi & CIP
Digital + Analog 36V 4 wires and (diseqc 1 and 1.2), usals positioner DAPCI only
DISEQC 1.2 and usals (for motorise)
Less than 1 second channel change (1444 channels tuned in 2 mins 40 Secs)
5000 channels programmable storing capacity
130 Satellites + Over 3500 channels pretuned in the memory
Over 1000 transponders + 50 extra blank transponders
Dual PCMCIA (Cam slots), DVB Common Interface (Viaccess 1 & 2, Irdeto 1 & 2, Aston Seca, Mediaguard 1 & 2, Nagra, Cryptoworks Betacrypt/Conax, etc CI-models only
Automatically stores Digital/TV/Radio/Channels/PIDS
Instant dish positioner adjustment in case of rain and poor signal
1000-to-45000 symbol rate SCPC & MCPC
Super sensitive tuner for even the weakest signal on small dishes
Instant teletext + subtitles supported by OSD and VBI
Picture in graphic + freeze advance for PC printing via digital camcorder
Unique colour control to enhance your picture quality
Very fast and easy EPG function + various sorting in EPG
Multi languages/real time display/3 Scart(CVBS/RGB)
8 favourite groups/multiple broadcast language support/
Edit/channels/satellite/name/transponders/radio/skip s/locks/delete/add/etc
Full default setting (factory reset) RF modulator (21-69)
RS232 (null modem) data & channel transfer to & from PC/receiver to receiver
Digital optical audio output – in TM5500D only
Multi satellite input – 1-sat-motorised + 3-fixed system – in DAPCi & CIP only
Full auto navigation system. Auto dish limit in DAPCi & CIP
Drive 2 motors, 2 dishes and memorise up to 138 satellites per motor in DAPCi & CIP

RF MODULATOR (21-69) IN/OUT


Optical digital audio output with Dolby Digital support
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## TM5500 2Ci

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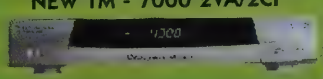

£179

### AUTHORISED ELITE DEALERS

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| London – Myers Satellite | 020 8520 7277 | London (North) – Turbosat | 08707 588 885 |
| Bristol – Meteor Satellite | 01179 864 059 | Manchester – Digital | 0161 488 0285 |
| Croydon – Spectrum | 020 8651 5030 | Middlesbrough – TRAC Satellite | 0164 468 145 |
| Exeter – Zerodefects | 01392 824 455 | Newcastle – Satellite Superstore | 01914 886 615 |
| Kent – Satellite Shop | 01892 548 468 | Somerset – Signal Master | 01935 413 999 |
| Lancs – Digital Satellite | 01257 471 204 | Surrey (Camberley) – SMS | 01276 20916 |
| Leeds – Brymar | 01132 320 005 | Wales – Dee Sat | 01597 811 082 |
| Leicester – Wizard Satellite | 01455 444 404 | Warwickshire – Vision On 2000 | 01789 765 665 |

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| London – Myers Satellite | 020 8520 7277 |
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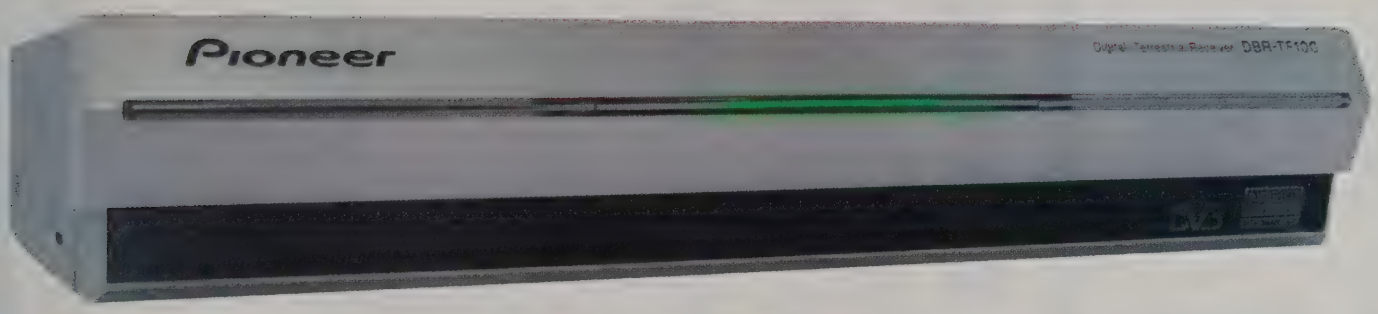


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The DBR-TF100GB is now available priced £99. For more information see www.pioneer.co.uk. *Satellite & Digital Choice* has five DBR-TF100GB adapters to give away, thanks to Pioneer. For a chance of winning one, just answer the question on the form below. The competition closing date is January 18, 2004.

## COMPETITION WINNERS

**We had four Echostar T-101 FTA adapters to give away in the Autumn issue of Satellite & Digital Choice. The lucky winners are David J McDonald (Essex), Mr R Klausner (Middlesex), Derek Eastham (Stockport), and T Lloyd (Cornwall).**

1. Entrants must be over 18 years old and resident in the UK.
2. Employees of Highbury-WV and companies supplying competition prizes are ineligible to enter. 3. Proof of posting will not be accepted as proof of delivery. No responsibility will be accepted for entries lost, damaged or delayed in the post. 4. No alternatives, cash or otherwise, will be given as prizes. 5. The winner will be notified by post. 6. The Editor's decision is final. 7. Entries for this issue's competition must be received by January 18, 2004. 8. Entries will be drawn after January 18, 2003. 9. No purchase is necessary.

## PIONEER COMPETITION ENTRY FORM

**Question: What sort of audio output is there on the DBR-TF100GB?**

**Answer:** .....

Please tick any of these that you own
- ☐ Home computer
- ☐ Cable/satellite connection
- ☐ CD/video
- ☐ Credit card

Please tick your age group
- ☐ under 35
- ☐ 35-50
- ☐ 51-60
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Please tick the occupation that is closest to yours
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Post code.....

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Post the coupon to: **Satellite & Digital Choice Competition, 53-79 Highgate Road, London NW5 1TW.** Entries must reach us by January 18, 2004. Entries must be on the entry form. Photocopies are acceptable.

We do make our mailing list available to other selected organisations whose products or services may be of interest to you. If you would prefer not to be included in such mailings, please tick this box ☐

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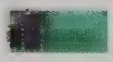

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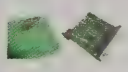
THE BELOW ITEMS ARE USED FOR THE REPAIR OF CAMS OR CHANGING MAGIC CAMS INTO MATRIX RE LOADED

FOR CAM RE PROGRAMING USES LOADER CARD INCLUDED



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| MTI Blue .6 | £20 |
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| INVACOM .3 Twin | £47 |
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| Syntec Quad .3 | £189 |
| MTI (c120) .6 | £33 |
| INVACOM .3 c120 | £33 |
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All LNB's ARE UNIVERSAL

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| 18"Actuator | £39 |
| 24"Actuator | £85 |
| 99 Gold H-H | £69 |
| 128 Gold H-H | £99 |
| 1224el H-H | £179 |
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| SuperJack D.G.120 | £75 |
| Manhattan H-H 100 | £87 |
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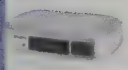

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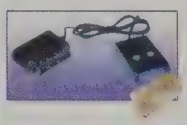
## PHANTOM PVR UNIT

The phantom pvr will allow you to record via your sky digibox without setting the vcr timer. (uses the sky guide like sky plus but without the subscription)

simply plugs into the digibaox no power supply required

auto learns your vcr remote commands



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| FUNCARD 5 | £9 |
| FUNCARD 6 | £11 |
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| AVR CARD | £22 |
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## PROGRAMERS

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FULL DETAILS ON WEBSITE

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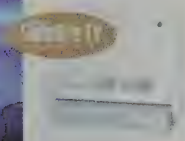

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WATCH YOUR SAT,VCR,DVD FROM ANY ROOM IN THE HOUSE (NO CABLES)

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57cm But Performs Like An 80cm...

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The digiGLOBE is a GLOBE antenna specially developed and adapted for digital television. elegant, effective, multifonctional, it is also very discrete. it is a new concept in satellite reception

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### POWERMID XL

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## ACCESSORIES

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| Decoder Switch | £10 |
| Auto Scart Switch | £29 |
| 4 Way Auto Scart Switch | £45 |
| Multi Extra Arm (19+13) | £10 |
| Multi Extra Arm (19+28) | £19 |
| Global SPS1Switch | £14 |
| Global 2 Way Diseqc | £15 |
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| 2 Way SKY Amp | £25 |
| 4 Way SKY Amp | £29 |
| 8 Way SKY Amp | £59 |
| SKY Web Keyboard | £15 |
| Satellite Finder Kits | £35 |
| DLS Alignment meter | £20 |
| Satbeeper | £10 |
| Piontsat | £15 |
| Satlook Spectrum | £299 |
| Rs232 (upgrade Leads) | £6.50 |
| Gold Wafer Cards | £4 |
| Funcard | £6 |
| Funcard 4 | £8 |
| Funcard 5 | £10 |
| funcard 6 | £12 |
| Titanium | £30 |
| AVR card | £30 |
| AT mega Funcard | £15 |
| Silvercard | £6 |
| Pic/Card2 | £6 |
| Powermid XL | £30 |
| Powermid Plus | £39 |
| Magic Cam Loader | £15 |
| Portable Loader PRO | £29 |

## ADULT

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£135

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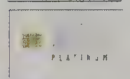
£135



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NO-ZAP £109

LIFETIME subscription

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## TECHNISAT SKYSTAR 1

Now With PVR Support

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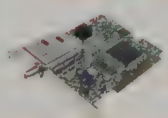
## TECHNISAT SKYSTAR 2

Now With PVR Support



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# The one and only

CHARLES EVANS BUILDS A SATELLITE TV SYSTEM TO TAKE ON ALL COMERS

It's the aim of every real enthusiast for satellite TV to have the 'ultimate' system. Many a watcher of the skies wants to be able to 'get everything' and some consider a few interference-prone seconds of Russian TV to be worth infinitely more than the whole second series of *The Office*.

But even if you are more interested in actually watching television than logging rare sightings, the means to receive as many signals of as many types as possible and to view them or record them is still the ultimate aim.

There is no one setup that can claim to be the ultimate system. It is not practical (not even possible) to get every one of the myriad signals bombarding us from orbit. We must concentrate on what we want most.

For many, Sky Digital is a good starting point; hundreds of English-language channels that most folk in the UK would rather do with. If you never intend to subscribe to Sky Digital, then you could skip this, but even that is risky since in the past – and probably in the future – even non-subscription channels have required a Videoguard decoder and viewing card which can only be had with a Sky Digibox.

**'For access to the digital channel bonanza on other satellites you are going to need an ultimate receiver'**

And only a Digibox can give you the full benefit of the interactive services on many of the Sky Digital channels. In fact, for the ultimate system, it should be a Sky Plus receiver that you get. With a built-in 40GB hard disc drive to record about 20 hours of programming, to pause live TV, to allow you start to watch a recording before the broadcast has finished and twin tuners so you can record one programme while watching another, Sky Plus is the ultimate in user-friendly, real-life satellite equipment.

## PLUS FACTOR

And it's the only Sky Digibox to have digital audio outputs, so if you're planning on an ultimate audio system to accompany your satellite setup, this has to be the one.

But satellite TV doesn't stop at Sky, or even at the Astra 2/Eurobird 1 satellites (at 28.2°E) from which it's broadcast. There are dozens of satellites receivable in the UK, carrying literally thousands of broadcasts. Many European channels can be found on Astra 1 (at 19.2°E) and the Eutelsat Hot Bird satellites (13°E) but you'll probably want channels from other satellites too – Arabic-speaking viewers will be after Arabsat 3A (26°E) or Nilesat (7°W), Turkish expatriates, Turksat 1C and Eurasiasat (42°E), and so on. Just about every European language is catered for to some degree – Georgians have a channel on W2 (16°E), Romanians one on Intelsat 901 (18°W) and Iranians a whole selection on Telstar 12 (15°W).

For your ultimate system, reception from at least some of these satellites is essential and the Sky Plus will not help you here. For access to the digital channel bonanza on other satellites you are going to need an ultimate receiver.

And don't forget the analogue channels too. Although there are only a handful of regular analogue transmissions, some of these still cannot be had in digital. Plus, there are still irregular broadcasts made in analogue – particularly from Eastern European states and so our receiver must handle both analogue and digital reception.

## DOUBLE THE FUN

It must also be able to access many satellites and that means a motorised dish or many dishes/LNBs. And it would be a good idea if it includes a hard disc recorder too, like the Sky Plus – with thousands of channels available, programme storage and organisation is vital.

There are many receivers that come close, but top of the heap is the Echostar DVR7000. This compact and well-styled machine can connect to either a conventional motorised dish or a DiSEqC switching system, and store the tuning details for 5,000 digital channels and 700 analogue channels across 100 satellites. When a motorised dish has been aligned correctly, the DVR7000 will even automatically find any satellite and fine-tune the dish aim for the best signal.

With a symbol rate range of 2000-32000, it will handle just about all types of digital signal, and automatically scans a satellite (or just a single transponder) to find the channels broadcasting, either replacing the existing settings or updating them. The scanning is based on a database of transponder details stored inside the receiver and as the details change, the DVR7000 can be updated either with a new database from Echostar, downloaded from the internet or via satellite, or you can edit the database yourself, adding in new transponders or whole satellites when necessary.

Despite analogue satellite TV being a mere sideline, the DVR7000 is very capable here too. Again, the

## TYPICAL COSTS

| | |
|---|---|
| Sky Plus | £199 |
| Echostar DVR7000 | £699 |
| Scart switcher | £40 |
| 1.2m dish, mount and LNB | £260 |
| Sky minidish installation with subscription | £50 |
| Motorised installation | £220 |
| TOTAL | £1,468 |

A multi-feed dish: a cheap way to set dozens of channels

channels' tuning details are stored in the database and these can be edited, but the DVR7000 can also find new analogue channels for itself. It has threshold extension for getting clear pictures from weak analogue signals and will handle the many audio options used by broadcasters.

## DON'T FORGET ANALOGUE

A great many channels are broadcast encrypted and require a suitable CAM (decoder) and viewing card. The DVR7000 has two common interface slots for plug-in CAMs and is available in a version with Viaccess CAM built in. However, one downside of the DVR7000 is that at present it is not reckoned to be suitable for receiving the TPS bouquet of French channels (because of software problems). This may change in time but, for the moment, if you want to receive the TPS then this cannot be the ultimate receiver for you.

There aren't many encrypted analogue channels left but the DVR7000 can cope with them too, with a Scart connector for an external decoder.

This is a PVR receiver with a 40GB hard disc for recording digital satellite TV. The broadcasts are stored digitally, as transmitted, so there's no loss of quality, and satellite radio can be recorded too, economically of disc space. Like other PVRs, the DVR7000 will also pause live TV, play a recording in slow motion or (forwards or backwards) at up to eight times normal speed (say, to skip the ads) and set 'bookmarks' at any point.

The caveat is that the DVR7000 has just one tuner, so you cannot watch one programme while recording another, and it cannot record either analogue satellite TV or from an external source. So the DVR7000 and Sky Plus have to work next to one another, but in splendid isolation.

But the DVR7000's hard disc does more than just record TV programmes. For channels that broadcast the data, the DVR7000 stores the EPG data on its hard disc so you can look through four weeks of programmes in advance and two weeks' history. Timed recordings are set from the EPG and can be manually tweaked for likely overruns or for regular recordings.

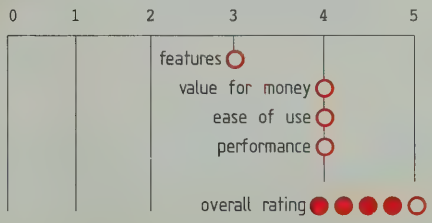
And it's not just TV programmes. The hard disc can also be used to store MP3 audio tracks (up to about 500 of them) and even pictures taken with your digital camera. The DVR7000 has to be connected to a PC for this and a USB socket is provided to download the files.

There is a lot of setting up and programming to do to get the most from a DVR7000. Fortunately, the Echonav menu system used is highly graphical and friendly. Even more importantly, it makes finding your way around the thousands of broadcast channels, MP3 files, pictures and TV and radio recordings a lot more practical. Each medium has its own channel/track/programme/picture

# Avermedia AverTV DVB-T

PRICE: £79

FEATURES: DTT tuner, PVR software, Pentium III 800, 128 MB RAM, Soundblaster-16 compatible sound card, Windows 98SE/ME/2000/XP
SUPPLIER: Avermedia 01908 218 8000, www.averm.co.uk




Although it lacks many of the features of the excellent Nebula DigiTV, the AverTV DVB-T is a DTT PCI card that still has much to satisfy the budget-minded Freeview lover.

A reasonable assortment of connections includes an aerial input, plus composite video and S-video inputs. There's also an input for the supplied remote eye which relays commands from the (basic) remote control.

Once installed, the card automatically tunes in all available Freeview channels before transferring you to the attractively designed main interface.

A side menu lets you skip to channels and there's the option to view a 16-screen freeze-frame snapshot of what's on other channels. The Setup screen has plenty of options. Here you can manually scan for channels, favourite lists, lock out certain channels and set limits on how much hard disc space can be used for recordings.

Recordings are stored in MPEG2 (there are no quality settings) and can be scheduled up to a month in advance. PVR functionality is also included in the form of a live pause option.

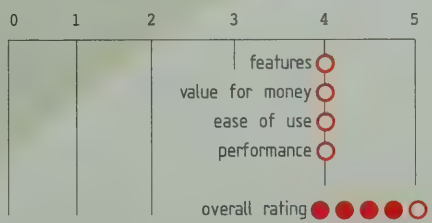
The minimum specification is an 800MHz Pentium III with 128MB and anyone who has bought a PC in the past three years should have no problems running the card. Using our test PC (an Athlon XP 2100 with 512MB RAM and a 128MB graphics card) we managed to download from the internet and word process all with the card running happily in the background. Picture quality is pleasingly low on artefacting; the occasional intermittent picture break-up on certain channels could be put down to a weak signal rather than any fault of the card.

The often poorly translated manual does count against it somewhat, but the AverTV DVB-T is still a decent enough digital terrestrial PCI card for the money and a cheap way into digital TV recording to boot.

# Hauppauge DEC 2000-T

PRICE: £130

FEATURES: 1 x Scart, UHF loopthrough, hi-fi output
SUPPLIER: Hauppauge UK, Bank Chambers, 6 Borough High Street, London SE1 9QQ. Tel: 020 7378 1997, www.hauppauge.co.uk




Versatility is the DEC 2000-t's strong point. Not only can you use to record and watch Freeview on your PC, it can also be plugged into your TV and used just like an ordinary Freeview adapter.

It looks not unlike an external modem with a rear panel that houses a single Scart, a USB output for your PC, a UHF loopthrough and a hi-fi output. The chunky black remote control is rather dated and cheap-looking, however.

For TV watchers, the DEC-2000-t's menu system is very similar to that found on conventional Freeview adapters. You can flick between separate and rearrangeable lists of TV and radio channels at the touch of a button and there's also a pin-protected parental lock feature. Pressing info while watching a channel brings up a programme information banner which can be expanded to reveal now-and-next information.

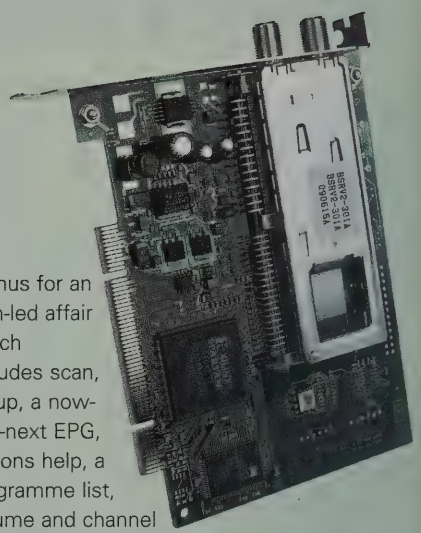
For PC users, setup requires connecting up the box to a spare USB port, and installed the software and tuned in Freeview channels from a list of transmitters. The software home page displays a list of channels on the left of the currently showing programme, with programme synopses displayed underneath (though oddly, the software permits only one line of each synopsis to be displayed at a time).

Sadly, there's no timer option for making recordings which are stored in MPEG2. PVR functionality comes in the form of basic time-shifting, which translates as the ability to watch a programme from the start while it's being recorded. WinDVD is also included in the software installation and can be used for playing back recordings, including creating playlists.

With its dual functionality and keen price, the DEC 2000 proves to be both a competent Freeview adapter and an easy way to record TV on your PC.

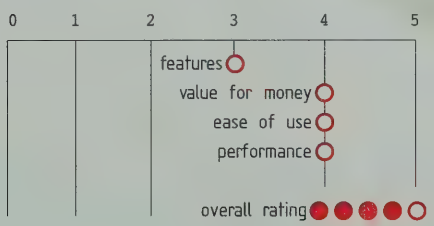
At the moment it's not quite up there with the Nebula DigTV with its seven-day EPG and more in-depth setup options but, hopefully, future software enhancements such as a timer will see to that.

# Hauppauge WinTV Nexus-s



PRICE: £199

FEATURES: CI expansion slot, LNB input, composite video, digital/analogue stereo inputs, PVR software
MINIMUM SPECIFICATION: Pentium II 233MHz, 32Mb, Windows 98, 28.8kb/s modem, Direct draw compatible PCI/AGP graphics card
SUPPLIER: Hauppauge UK, Bank Chambers, 6 Borough High Street, London SE1 9QQ. Tel: 020 7378 1997, www.hauppauge.co.uk




Unlike the Visionplus 1030, the WinTV Nexus-s doesn't feature DiSEqC 1.2 support for motorised dishes, but this satellite PC card still has much to recommend it.

It comes with an expansion slot for a common interface board and a modest set of connectors including a single input F-connector plus composite video, and digital and analogue stereo audio outputs. There's also an input for a remote control IR receiver bug so you can control the card from a distance.

You can have up to four LNBs connected to the Nexus-s through a DiSEqC switch, and there's a comprehensive list of satellites to choose from. Astra 1 and Hot Bird are pre-programmed and it's easy to scan for new channels.

For internet users, the Nexus-s comes preset for Europe Online and T-DSL. The software interface eschews Windows-style menus for an icon-led affair which includes scan, setup, a now-and-next EPG, options help, a programme list, volume and channel toggles, record and PVR time shift controls.

Operation is smooth throughout; the Nexus-s generates excellent pictures from a raw 720-line PAL, even at full-screen 1024x768. Recording programmes is easy (recordings are stored as MPEG2) and there's also a timed recording option.

Though DiSEqC 1.2 support for motorised dishes would have been welcome, the WinTV Nexus-s is still a well-thought out and very easy-to-use satellite PC card.

# Nebula DigiTV

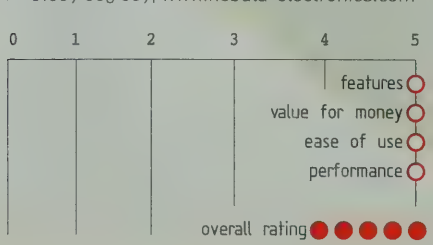
Editor's CHOICE

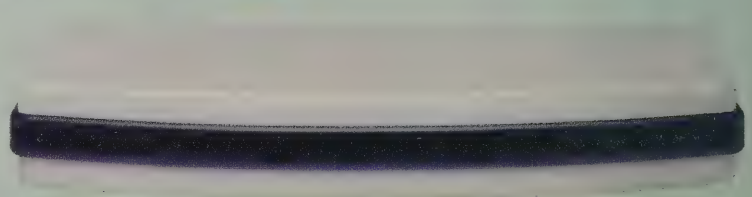
Digital terrestrial TV PC cards are are still thin on the ground compared with their satellite counterparts, but the continuing success of Freeview should change that.

The DigiTV comes in two forms, as a PCI card and as the USB box featured here – each bundled together with a One For All universal remote.

PRICE: £130/£120 PCI CARD

Features: Seven-day EPG, MHEG-5 software, 4 x USB input, 1 x USB output, UHF loopthrough, PVR software
Minimum specifications: 800MHz Pentium/AMD, 64MB RAM, 16-bit graphics card, USB 2.0 port, Windows 2000/XP
Supplier: Nebula Electronics Ltd, TMS House, Cray Avenue, Orpington, Kent. Tel: 01689 885 009, www.nebula-electronics.com



The USB version requires the presence of a USB 2.0 port on your PC, plus the most up-to-date versions of Windows XP or 2000. Additional USB 2.0 connectors are included on the rear, enabling you to daisy-chain other USB devices, and a UHF loopthrough means you can also watch analogue signals on a TV set.

The software is superbly organised, making use of clearly labelled menus to help you get what you want with the minimum of effort. The most welcome inclusion is a seven-day EPG which can be kept up to date through regular downloads.

PVR functionality is exceptionally well-catered for, with a live pause option and a wealth of recording settings. This includes the option to record just the data stream from a particular multiplex – effectively enabling you to capture several channels at once.

Recordings are stored in MPEG 2 and a smart-looking Media Player is also included for playback.

Usefully, recordings are automatically labelled with the programme information for easy reference. The simplest way to record is just to press R on the keyboard, or you can make use of the 50-event manual timer, which has a repeat option.

Picture and sound quality is admirable, with only minor artefacting in evidence resulting (we suspect) more from a poor signal than anything else. And we had no trouble running the box on our test PC (an Athlon 2100 XP with 512MB RAM and a 128MB graphics card.

Overall, the DigiTV is one of the most user-friendly TV products on the market, and the constant refinements being made to the already-excellent software bode very well for its future.

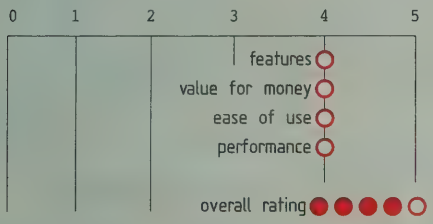
# Technisat Skystar 2 PVR

The Skystar 2 PVR adds, as the name suggests, PVR functionality to what was already a very popular satellite PC card.

Although the software has had an upgrade, the hardware is still pretty much unchanged – it's still the same PCI card using the B2C2 chipset and a tuner module with a single LNB input. There are no video or audio outputs so unless your video card has a composite or S-video output, you won't be able to watch channels on your TV.

PRICE: £59

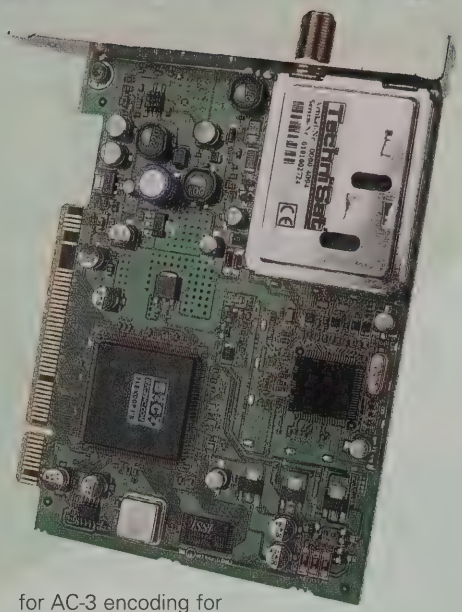
FEATURES: LNB input, MPEG2, DivX, AVI and M2V files, PVR software
Minimum specification: 500MHz Pentium III, 64MB RAM, 2D VGA graphics, 500MB HDD space Windows 98/SE/ME/2000/XP
SUPPLIER: Sat-Europa, 15 Cador Drive, Portchester, P016 9EP. Tel: 01329 516 750




The basic software includes Setup4PC, which enables you to control LNB settings, DiSEqC switching, transponder lists and addressing for data applications. This is used to scan for new channels and also new transponders if you want. A sad omission is the ability to drive a DiSEqC 1.2 motor.

Helping to keep the cost down, Windows Media Player is used for MPEG2 playback and is bound up with the EPG and channel list software.

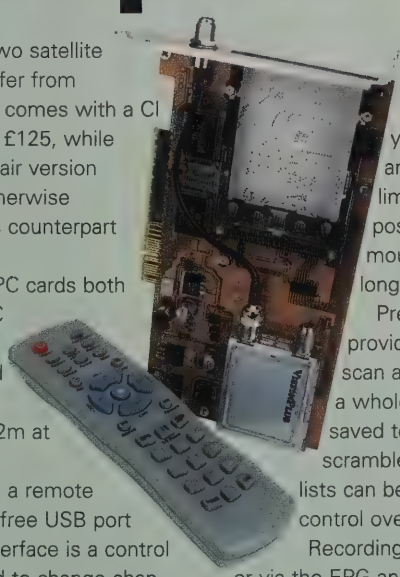
The DVB viewer is where you'll find the PVR functionality. A brilliantly simple Windows-style interface generates a great picture and an EPG populated with downloaded DVB data. Recordings can be made (in MPEG2) to the hard drive and there's playback support for MPEG2, DivX, AVI and M2V files. There are also channel lists for dozens of satellites separated into free and pay-TV and favourites. There's also support for AC-3 encoding for Dolby Digital surround sound.



The Skystar 2 PVR ran very smoothly on our two-year-old PC, and the addition of DVB Viewer has only added still further to what was already a top-quality card.

# Visionplus VP-1030

The VP-1030 is one of two satellite PC cards currently on offer from Visionplus. The VP-1030 comes with a CI slot and sells for around £125, while the VP-1020 is a free-to-air version minus the CI slot but otherwise practically identical to its counterpart and costing £99.



Unlike most satellite PC cards both have support for DiSEqC 1.2 motorisation, which means they can be used to drive a dish up to a metre in diameter (or 1.2m at a push).

Both cards come with a remote control that plugs into a free USB port on your PC. The user interface is a control panel which can be used to change channels, volume, record, play, pause and capture, and launch the setup, teletext, EPG, recording and playback modes.

You can have up to four fixed LNBs of any kind, selected by DiSEqC, data burst or tone burst switches. Up to eight satellites can be distributed between these LNBs, or using a motorised mount (you'll need a motor to see all eight satellites).

In basic DiSEqC mode, you can drive the dish east and west, set movement limits and go to the zero position. Those with USALS mounts can just enter their longitude and latitude.

Pre-programmed lists are provided. You can chose to scan a single transponder or just a whole satellite. Lists can be saved to include just free or scrambled channels, favourites lists can be created and there's full control over PIDs.

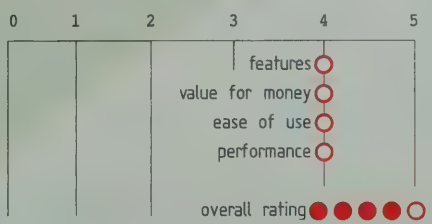
Recordings can be set up manually or via the EPG and are stored in the rather resource-intensive M2S format (one hour equates to around 3GB), although this can be converted to MPEG1.

Performance can be jerky at slow speeds on low-spec PCs and we'd recommend using at least a 1GHz system with 256MB RAM. Provided your PC is up to scratch, picture quality is excellent, even in full screen mode, where there's no evidence of interpolation.

Excellent as they are, at the time of writing, there are no data drivers for these cards that would enable them to be used in conjunction with internet services. Once these eventually come along, both cards will undoubtedly be some of the most versatile on the market.

PRICE: £125

Features: Symbol rate range 2000-45000, DiSEqC 1.2 USALS, 1 x CI slot
Supplier: MC Satellite, 470 Thornton Road, Girlington, Bradford BD8 9BS. Tel: 01274 498080
Minimum PC specification: Pentium III 500MHz, 128MB RAM, Windows 98SE/ME/2000/XP, 8MB VGA card



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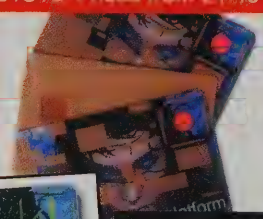

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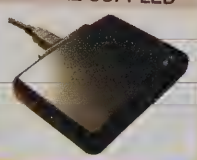

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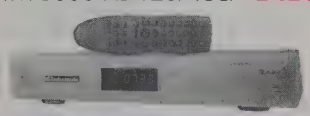

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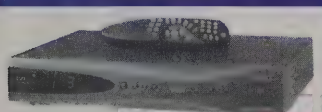

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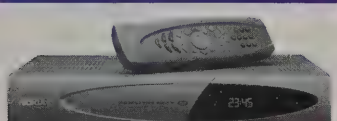

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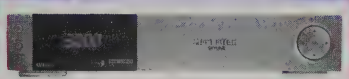

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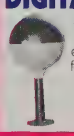

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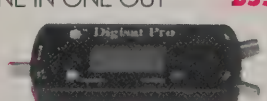
| GOLD CARD | £4 |
| FUN | £6 |
| FUN 4 | £7 |
| FUN 5 | £9 |
| FUN 6 | £11 |
| AT MEGA | £15 |
| TITANIUM | £30 |

## DIGISAT POS METER

ONE IN ONE OUT £35



TWO IN ONE OUT £49

CAMBERLEY 01276 20916
GUILDFORD 01483 451597
READING 0118 956 9712
WALES 0845 6584404
N IRELAND 02843 724 780

VISA
MasterCard
SWITCH

# Good together

WANT MORE OUT OF YOUR SATELLITE RECEIVER THAN JUST DIGITAL TV? SATELLITE & DIGITAL CHOICE OFFERS UP FOUR RECEIVERS WITH THAT LITTLE BIT EXTRA UNDER THE HOOD

A satellite receiver, a DVD player, an amplifier, a Freeview adapter and maybe even a games console. As well as adding up to a formidable digital entertainment system having all of these in your living room can also be a bit of a headache.

Indeed, with so many boxes jostling for space under your TV, space is at a premium these days. AV manufacturers have begun to recognise this over the past few years and have started producing space-friendly, multi-function AV boxes.

The combined VCR and DVD player has become a familiar sight on the High Street, and now we're starting to see combined satellite receivers and DVD players come on to the market.

These tidy little packages come with all the functionality you'd expect of a digital satellite receiver including DiSEqC 1.2 software for inexpensive dish-turning, and huge channel and satellite memory capacity. The Force DVD-Master 2055S comes with both Viaccess and Conax CAMs for encrypted channels and both receivers feature common interface slots for adding your own CAMs in the future.

The DVD portion of the receivers is not to be sniffed at either with the DVD-Master featuring playback support for DVD/MP3/VCD/SVCD and CD discs. Both receivers also feature one or more digital audio outputs and support for Dolby 5.1 (as well as DTS). This is useful both from a DVD-watching point of view and for those who want to enjoy Dolby 5.1 broadcasts from German channels such as ProSieben and ARD.

For the more seasoned enthusiast who perhaps already has a DVD player, a combo of a different kind may appeal. The Echostar AD-3600 IP Viaccess, Strong 4375 and Aston Xena 2000 are all satellite receivers capable of both analogue and digital reception. Though digital has rapidly become the dominant broadcasting formats, there are still a handful of free-to-air German analogue channels available on Astra 1 for example making them an ideal buy for the must-have-everything feed hunter. Factor in motorised dish support, and Viaccess CAMs for encrypted channels, and a host of AV connections (particularly on Echostar's dependable workhorse) and you have four fully rounded satellite receivers with something to please just about everyone.

*Temptation Island Australia* on Sky One, courtesy of BSkyB

### COMBO KINGS

| | |
|---|---|
| Aston Xena 2000 | £425 |
| Echostar AD-3600IP Viaccess | £500 |
| Force DVD-Master 2055S | £449 |
| Pixx ADT8310 | £250 |
| Strong 4375 | £399 |

### BUYING TIPS

Helpful hints when buying digital/analogue receivers

- Watching scrambled digital TV packages requires a conditional access module (CAM). Check the CAM type is suitable for the package you want and remember that not all receivers come with CAMs included. You'll also need the relevant viewing card, although often dealers will sell you both the the card and CAM together.
- If you are getting a positioner in your receiver to use satellites other than Astra, make sure yours is large enough to receive the channels you want to watch, particularly if they are on satellites at hard-to-reach locations in the geostationary arc.
- Digital channels on satellites other than Astra use different symbol rates and forward error correction, so make sure you get a receiver where these are variable.
- None of these receivers can be used to watch those Sky channels which are encrypted in Videoguard, as the format is exclusive to Sky Digiboxes.

# Aston Xena 2000

'The Xena 2000 may not be cheap, but for sheer versatility and ease of use it's still a solid enough buy'

The Xena 2000 is similar to the Xena 1800HD PVR combi featured in the autumn issue of *Satellite & Digital Choice*, replacing the hard disc with analogue reception instead.

Like the 1800HD, it also has Viaccess and Seca CAMs built in, plus CI slots for adding additional CAMs.

It's a DiSEqC 1.2 receiver which can also used to drive a conventional motorised mount if an adapter such as the Aston Satfinder is used.

Installation is very easy. Fixed dish users need to enter longitude and latitude and the receiver displays the elevation and bearing for the satellite you want. Motorised dish users can use the built-in auto focus to find the first satellite and the Xena 2000's built-in algorithms will calculate the position of the other satellites as required.

The Xena 2000 then automatically finds the channels on all the satellite you're receiving. The receiver searches for digital channels on transponders in a stored list for each satellite and you can add new transponders. Searching for analogue channels requires scanning the whole frequency range in both polarities. An auto search option is included and an onscreen menu lets you input your own settings for frequency, polarity, skew, video bandwidth, threshold extension, video deviation, radio screen blanking, audio subcarrier frequencies, bandwidth and de-emphasis and decoder output.

Once you've found the channels you've want, these can be divided into nine lists – five renameable TV Favourites lists, a main TV list, a main radio list, a data channel list and a radio favourites list. No distinction is made between analogue and digital channels, but this simplified approach to organisation actually works in the receiver's favour.

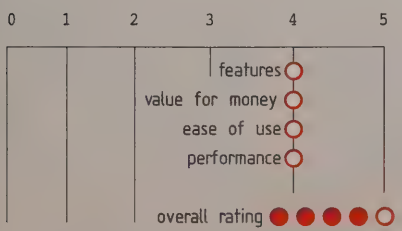
One area which could have done with a little more 'clarification' is the manual, which is in French. This Gallicisation carries down to a lesser extent to the menus which even when set to English still display the odd French term. Still, it doesn't get too much in the way of successfully operating the receiver, and we have to say that the gliding menus and animated icons combine to make one of the slickest operating systems we've come across.

The full EPG is accessed from the menus rather than being a single button-push away (although you can still access a basic now-and-next at the touch of a button).

Instead of a grid of programmes you are presented with a search function that lets you find programmes of a chosen theme from selected bouquets over a particular period, though it can be slow to create.

AV performance is more than adequate. Picture quality is very good on both analogue and digital channels and sound quality is up there with the other receivers in this group test.

The Xena 2000 may not be cheap, but for sheer versatility and ease of use it's still a solid enough buy for satellite newcomers.



FEATURES: Viaccess 2 CAM, Seca CAM, DiSEqC 1.2/USALS, 4,000 channels, 49 satellites, 2 x LNB inputs, 2 x common interface, 2 x Scart. S-video output, composite video output, stereo audio output, UHF loopthrough, coaxial digital audio output
SUPPLIER: The Satellite Company, 3 Pier Road, Littlehampton, West Sussex BN17 5BA.
Tel: 0800 074 9150, www.thesatellitecouk.com

PRICE £425

⊕ Flexible antenna options. Receives almost anything

⊖ Plasticky design. Poor EPG. No direct conventional motor drive

# Echostar AD - 3600IP Viaccess

Although it's since been superseded in the uber-receiver stakes by Echostar's own all-singing, all-dancing DVR-7000 PVR combi, the AD-3600IP Viaccess remains a formidable workhorse in its own right.

It comes with the same Tricontrol remote as other Echostar receivers which can also be used to control a TV or VCR.

You can only have one motorised dish but (using DiSEqC switching) the receiver can also be used to control up to three other fixed dishes through the main IF input. Alternatively, you could just use the AD-3600IP for fixed dishes only.

Motorised setup involves the user finding the most easterly satellite available, the satellite nearest due South and the most westerly signal.

Once the reference satellites are found, the receiver asks which other satellites are within the range you wish to look at and then it goes off and scans every one.

Even though the receiver is quick to inventory individual satellites, it can take a long time to scan all of them. For example, our search of almost every location between Astra 2A and Hispasat took a little under two hours, with only Nilesat omitted.

There is however, a generous memory capacity of 5,700 TV and radio channels. As with the Aston Xena 2000, analogue and digital channels aren't listed separately, although analogue channels are shown in black and digital in white.

Now on its third incarnation (Echonav 3.0) the Echonav menu system again proves its worth, favouring pop-up menus over simple text-based affairs.

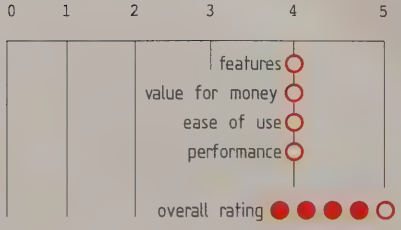
Analogue channels get an extra set of options, including low threshold adjustment in steps down to 3dB, and decoder output (baseband, clamped, filtered and unclamped). The alignment of analogue channels can also be fine-tuned to your satisfaction.

Pictures are wonderfully sharp and clear. Though the Echostar copes as badly as any other receiver when faced with a poorly compressed signal, it's still good with weak signals. Audio quality is typically excellent and AC-3 decoding is present for enjoying Dolby Digital broadcasts from the German channels which broadcast it.

Even without a Dolby signal, results are particularly crisp when using the optical digital audio output.

Compared with the likes of the Aston Xena 2000 the AD-3600's price and lack of equivalent features in some areas (notably DiSEqC 1.2 support) do put it at slight disadvantage. However, it still has superior connectivity and the slick, ever-improving Echonav software also makes it worthy of consideration.

'Even though the receiver is quick to inventory individual satellites, it can take a long time to scan all of them'



FEATURES: DiSEqC 1.0, 5,700 channels, 100 satellites, Viaccess 1.1 CAM, common interface x 2, selectable FEC, symbol rate range 2000-32000, teletext, EPG, 20 event timer, 3 x Scart, 3 x LNB inputs (1 x digital, 2 x analogue), LNB loopthrough, composite video output, stereo audio output, coaxial digital audio output.
SUPPLIER: Echostar, Schuilenburglan 5a, 7604 BJ Almelo, The Netherlands. Tel: 0031 546 815122, www.echostar-int.com

PRICE £500

⊕ Huge memory and easy setup, powerful interface

⊖ System can be a little slow

# Force DVD-Master 2055S

A combined satellite receiver and DVD player, the DVD-Master 2055S certainly packs in a lot of features, including both Viaccess and Conax CAMs. A Viaccess-only model – the 2044S – is also available for £400.

It's a smart-looking receiver with a slim DVD tray on the left, sitting above a bright, multi-function LED display showing DVD as well as satellite information and a drop-down flap on the right concealing the twin common interface slots and Conax and Viaccess CAMs. The remote control is clearly laid out with easy-to-follow buttons for controlling both portions of the receiver as well as the basic functions of your TV set. The manual isn't quite so comprehensive for more advanced users however; it fails to cover subjects such as editing the frequency database and setting up a DiSEqC motor.

This is a problem because the Force's user interface is designed primarily from the user's point of view, not the installer or enthusiast's.

All of the options you might want to change while installing are present – they're just quite hard to find. If you want to change the LNB and DiSEqC switch options for a satellite, for instance, you'll have to visit the Positions list and either press yellow or OK while that satellite is highlighted, which is a little confusing for those used to the traditional ways of organising satellite receivers.

For each position you can set up different kinds of LNB, two-level DiSEqC switching, and LNB power, although there's no signal meter to check your alignment. This is only available if you're setting up a DiSEqC motor, for which it relies on you buying a Force Skywalker mount and using the instructions from that. A full range of DiSEqC motor controls is included, from setting movement limits to auto-calculating positions based on a bearing to 1W and a reference satellite. The receiver is preset with frequency lists for 35 satellites, and you can add more if you wish.

Channel listings are broken down into national favourites lists, genres and pay-TV packages. You can add transponders and identify channels by PID.

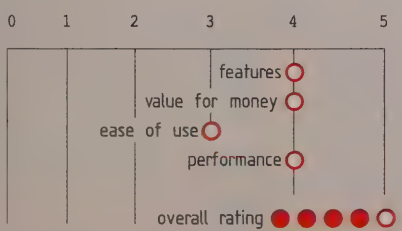
The EPG is one of the best we've come across. Download the latest software update from both Astra 1 and 1W and you get icons for each channel. Programmes can be sent to either a TV Manager or Video Manager timer list. The former will just change channels; the latter will use the Force's IR-Blast feature to start and stop your VCR.

Pictures are sharp and free from artefacts, with good performance at lower signal quality and sound is pleasingly-noise free via the digital audio output.

The excellent AV performance extends to the DVD player. Watching *The Lord of the Rings: The Fellowship Of The Ring*, pictures were sharp and colourful and comparable with standalone mid-range disc spinners. Slipping in our DTS demo disc containing the Mini chase scene from *The Bourne Identity*, we found both sound effects and music were both faithfully conveyed with plenty of punch.

'Pictures are sharp, with good performance at lower signal quality'

Although the manual could have been more detailed in some areas, the DVD-Master is still a supremely well-featured receiver, especially if you want encrypted foreign channels. Factor in the space-saving inclusion of an above-average DVD player and you have a real bargain for the money.



FEATURES: Viaccess and Conax CAMs, 2 x common interface, DiSEqC 1.2 USALS, 36 satellites, 5,000 channels, 30 day timer, Dolby Digital, DTS. DVD/MP3/VCD/SVCD/CD playback, 2 x Scart, stereo audio, optical digital audio output, coaxial digital audio output, LNB input

SUPPLIER: TPS, 182 Stamford Street, Ashton-under-Lyne, Lancashire OL6 7LR. Tel: 0161 344 0123, www.tps.uk.com

PRICE £449

⊕ Feature-packed sat/DVD combo

⊖ Steep learning curve, sketchy user manual

# Pixx ADT8310

The other sat/DVD combo in this group test is one for the more general user rather than the hardcore enthusiast. Indeed, even the rather sketchy manual pays very little attention to subjects like DiSEqC 1.2, preferring to dwell more on the DVD player itself.

The ADT8310 is a good-looking receiver with a trendy mirrored silver fascia, and it's relatively slim considering what's been crammed inside.

The remote control is a snug fit in the hand but, sadly, sports only half the button labels given in the instructions (including menu and setup), which can be confusing.

Fire up the receiver and an automatic satellite installation wizard lets you select languages, video and audio formats and configure LNBs before beginning the auto search.

The subsequent setup procedure may prove difficult for newcomers owing to the manual, but with a little digging around you'll find plenty of options for configure the receiver to your liking. Up to 32 satellite positions can be selected with DiSEqC 1.2, four with DiSEqC switching or two with 22 kHz switching. Any type of LNB can be used and there are handy onscreen signal meters.

Setting up a DiSEqC 1.2 motorised dish is very easy. Step and continuous movement are available, as well as limit setting, mount reset and goto commands.

'AV performance is rather a mixed bag, particularly compared to the Force DVD-Master 2055S'

The receiver can be set to search all of your chosen satellites on its own and the standard search is very fast. You can also look for new transponders, free-to-air channels, use the satellites NIT as a transponder list, automatically sort the channels to free and scrambled signals, and even choose which types of encryption you want to look for or ignore.

Of most excitement to enthusiasts is the Detailed Search option where, among other things, you can choose a range of frequencies to search and specify up to four symbol rates to look at.

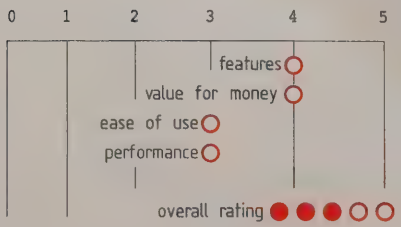
Around 2,000 can be stored and these can be deleted, moved, renamed, and sorted and placed into one of 14 favourites lists.

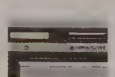
AV performance is rather a mixed bag, particularly compared to the Force D-Master 2055S.

Images are detailed and movement smooth but occasionally large patches of colour are affected by fizzy edges. The audio fares better, however, with even plain old analogue audio being pleasingly low on noise.

The DVD portion boasts an impressive spec with Dolby Digital and DTS decoders and playback of DVD, CD, CD-R VCD and Super VCD discs, including MP3 files. However, picture quality is lacking with poor contrast in dark areas and occasionally poorly defined edges. Audio quality is similarly lacking in range.

And there's the rub with the ADT8310. Although there are some very useful features to be found for enthusiasts (even if they're barely mentioned in the manual), the decidedly average DVD player and all-round picture and sound performance make for a 'competent' package but one that – despite being the cheaper of the two – still pales stood alongside the Force DVD-Master 2055S.



FEATURES: DiSEqC 1.2, 4,000 channels, 32 satellites, symbol rate range 1000-45000, five event timer, LNB input, 2 x common interface, 2 x Scart, composite video output, S-video output, stereo audio outputs, coaxial digital audio output, digital optical audio output

SUPPLIER: ADT Europe, 46 Belfast Road, Down Business Park, Downpatrick, Co. Down BT30 9UP Northern Ireland. Tel: 028 4483 8999

PRICE £250

⊕ Useful features, intensive frequency search

⊖ Average DVD playback, manual and remote could be better

# Strong SRT4375

The SRT4375 is the first Strong receiver to feature a built-in positioner. This is controlled by five spring-clips accommodating a standard 36V motor with either a reed switch or Hall Effect sensor, and a sixth spring-clip is provided to control a mechanical polariser.

After choosing your language, you get the positioner control menu. This chooses whether the primary dish is fixed or motorised and sets the east and west movement limits. A useful scrolling ticker-tape indicates which buttons to press to activate each option.

This can be done manually or automatically but for automatic limit setting, the mechanical limits on the motor itself must be set correctly, or the receiver will keep telling the motor to turn even if the dish hits an obstacle – with potentially disastrous consequences.

The positioner menu also has an automatic satellite-finding option. This searches the skies for healthy signals from any satellites which have been set up in the digital installation menu. Hot Bird, Astra, Hispasat, 1A/B and Intelsat are all set up by default.

As the search progresses, markers are added to a chart of the dish's range, and a signal strength meter shows whether a suitable signal has been found. It can take time and sometimes ignores the correct signal several times before locking on, but it's a lot easier than swinging the dish in tiny steps looking for signals manually.

For new satellites there is a comprehensive pre-programmed list to which new names can be added. The position column shows the sensor reading for satellites set so far, and allows access to a sub-menu for manual positioning. You can select from a list of transponders on each satellite to make the search easier and adjust the skew for a stronger signal. The chart showing where each satellite appears along your dish's range makes it easy to predict the position of a new satellite or, if you program in a rough position figure, the receiver will perform a mini-search in that location for the strongest signal.

It's possible to scan all satellites at once, each position individually, or go to another sub-menu for each satellite and scan, edit or add individual transponders and channels.

The scan is quick and the SRT4375 locks on to surprisingly weak signals – as low as 25 per cent on the signal bar in some cases.

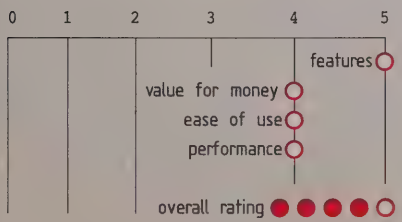
Extremely sharp pictures are produced from digital channels. The sound is very clean and music feels genuinely of CD-quality. The Select button shows a two-hour/four-channel EPG, and pressing Func on the remote shows any further details (if available).

The analogue installation is accessed through the same Satellite Setup menu as the digital installation, and for each satellite it copies the LNB, switching and skew settings. The analogue autoscan is thorough, but very time-consuming compared with the quick digital scan.

Analogue channels can also be set and named manually, with the option of 18MHz or 27MHz video bandwidth, fine-tuning, picture contrast and low threshold to clean up weak signals.

Both analogue and digital channels are stored by satellite, so the first action for changing channels is to select a satellite. The receiver will then move to the last channel selected at that position, and the four digital and analogue TV/radio buttons on the remote can be used to access channel lists.

Overall, the SRT4375 is a very impressive product with great performance which makes setting up a motorised digital system far easier than normal.




Editor's CHOICE

PRICE £399

Features: 3,000 digital TV/radio, 500 analogue TV radio. 64 satellite positions, 3 x LNB inputs, LNB loopthrough, extended IF, 22 kHz tone, 3 x Scart, stereo audio outputs, composite video outputs, DiSEqC 1.0, parental lock, UHF modulator tuning 1-69, modem, parental lock

Supplier: Strong, 9-13 Maritime Street, Leith EH6 6SB.
Tel: 0131 625 1030, www.strongsat.com

⊕ Easy motorised digital setup, excellent AV performance

⊖ Auto-searching ignores software movement limits

# Multiple choices

IF YOU WANT FOREIGN PAY TV CHANNELS FROM SEVERAL SOURCES THEN YOU NEED THE RIGHT RECEIVER FOR THE JOB. HERE ARE FOUR MULTI-ENCRYPTION RECEIVERS FOR YOUR CONSIDERATION

Austin Powers in *Goldmember* on Sky Movies, courtesy of BSkyB

Although many people who get into satellite are after free-to-air channels, if you want the best that foreign TV has to offer, you have to be prepared to pay for it.

This easiest way to do this is to buy a receiver with the necessary de-encrypting hardware (a CAM or conditional access module) already built in like the four models featured here. Otherwise, if your receiver has common interface (CI) slots you can add your own CAM and viewing card for the channels you want to watch.

Of course, different channels use different methods of encryption, the most common perhaps being Viaccess, Irdeto and Seca which are widely supported by many satellite receivers currently on the market (the Force D-Master 1145S and Aston Simba 202S featured here include CAMs for both Viaccess and Seca CAMs).

That's by no means the end of the story, however. One of the problems with encrypting pay TV channels is that the methods themselves are constantly being hacked by pirates who generate pirate viewing cards which are sold in a highly illegal-but-lucrative European black market. This has led to the encryption bods themselves constantly updating their software in an attempt to stay ahead of the hackers, hence the appearance of Viaccess 2, which is increasingly being pressed into service by European broadcasters.

'If you want the best that foreign TV has to offer, you have to be prepared to pay for it'

While we by no means advocate card piracy or indeed buying pirated viewing cards, there are a growing number of receivers out there which cater for those in need of more than one encryption method to go with their 'legitimate' viewing cards. The Delta Sat IRCI features an Allcam which, while it supports Irdeto out of the box, can be re-programmed using a PC to support a wide range of encryption methods. Ditto the Xtreme's UCAS or 'Magic CAM' which can also be re-programmed to meet all your de-crypting needs. Bear in mind, however, that none of the receivers here can be used to watch Sky Digital channels, which have their own method of encryption, Videoguard.

The receivers featured over the next few pages have plenty more to offer besides their de-encrypting prowess. All feature DiSEqC 1.2 support, delivering dish motorisation on the cheap. Both the Force D-Master 1145S and Xtreme also feature support for the USALS auto locating system which, in the latter case, calculates the position of a satellite after you've entered your latitude and longitude,

The aptly-named Xtreme also has a huge memory capacity for 9,000 channels and 60 satellites while all four receivers feature a healthy range of connectors including digital audio outputs for superior sound quality.

Whichever receiver you go for, you're bound to find something here to suit your pay-TV needs.

**DECRYPT KEEPERS**

| | |
|---|---|
| Aston Simba 202S | £260 |
| Delta Sat IRCI | £272.59 |
| Force D-Master 1145S | £299 |
| Xtreme | £249 |

**BUYING TIPS**

Helpful hints when buying a pay-TV receiver

- **Decide which channels you want to receive before plumping for a receiver with built-in encryption. There's no point in paying extra for a de-encrypting CAM you're not going to use.**
- **Some broadcasters will end your viewing rights if they believe you're watching from outside their country. Be aware that a year's subscription doesn't guarantee a year's viewing.**
- **Satellite & Digital Choice doesn't condone buying pirated viewing cards, but if you're tempted, bear in mind that broadcasters can send out electronic countermeasures via the satellite signal that will invalidate your warranty. It can be an expensive gamble.**

# Aston Simba 202S

The Aston Simba 202S is a very well-featured DiSEqC 1.2 receiver with both Viaccess and Seca CAMs (a Viaccess-only model, the 201S is available for £250).

The simple silver finish is complemented by four chrome-painted menu control and volume/channel change buttons. Three coloured LEDs indicate whether the Simba's in standby, if there's a good signal, and whether the signal is scrambled.

The Simba can be used as either a fixed-dish receiver, with single or multiple fixed feeds, or as a motorised receiver with a DiSEqC 1.2 mount. In fixed-dish mode you can pick up to four LNBs or dishes, connected via a tone burst or DiSEqC switch. The Simba's remote control, though lightweight, is very well designed, with chunky rubber buttons.

Setting up the receiver is easy, thanks to an excellent graphic interface, which translates almost everything into simple diagrams that make the technical terms more obvious.

Thus, if you've selected for two fixed antennas, you'll be shown a picture of two antennas, each with its own LNB selection menu, and a cable linking them to a DiSEqC switch and the receiver. You'll then be shown a screen with the satellites displayed on an east-west arc, so you can assign each satellite to an LNB, and use the onscreen signal meter to check your reception.

There's a complete list of satellites (for European users, anyway), although you can only add new positions by updating the software.

When setting up a motorised system, the Simba automatically calculates every satellite position based on your latitude and longitude once you've found a single reference satellite. A diagram allows you to choose between different LNB types, including C-band. You have to activate at least one satellite position (to a limit of 50), and you have a choice of aligning the dish, setting movement limits, or resetting the dish.

Aligning the dish again uses a picture of the arc, displaying all the satellites you've positioned so far, although you should only have to manually align one location. There's a signal meter as usual, and unusually, the Simba will show a thumbnail picture when you find the right location (provided your test transponder is either in the clear or you have the right viewing card). Another useful feature is Locsat, which will scan the area for the strongest signal.

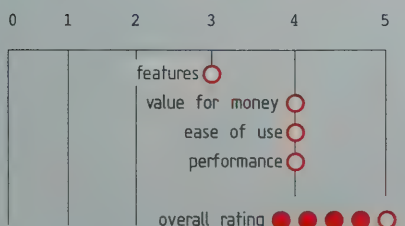
Before running the automatic scan, you can choose to look for either unscrambled signals or everything, and whether to delete the old channel list or just add new channels to the current list.

There's also complete information about each channel – language, tuning and PID details, whether it's encrypted or multilingual, and if it has teletext or EPG information.

This menu is also where you can add both new transponders, and use PIDs to add new channels, although you can't select the FEC. Aside from the main channel list, which is easy to navigate by jumping between transponders, there are eight easily programmed favourites lists.

Picture quality is sharp and artefact-free and audio quality is very acceptable. Teletext is supported but the EPG is now-and-next only, even though some channels supply more extended programme details. While the latter (and the lack of a timer option) does disappoint, the 202S remains a great value and beginner-friendly receiver for those wanting both pay-TV and free to air channels.

'Setting up the receiver is easy, thanks to an excellent graphic interface'



FEATURES: Seca and Viaccess CAM, DiSEqC 1.2, 3,000 channels, 50 satellites, symbol rate range 1800-40000. 2 x Scart, LNB input, UHF loopthrough, composite video output, stereo audio outputs

SUPPLIER: Eureka Trading, 9 Eden Avenue, Lytham St Anne's, Lancashire FY8 5PS. Tel: 01260 272788

PRICE £260

⊕ Excellent DiSEqC controls, easy to use menus

⊖ No timers, now-and-next EPG

# Delta Sat 1104IRCI

The Delta-Sat 1104IRCI certainly has a impressive feature list with twin common interface, DiSEqC 1.2 smart motorised mount control, S-video and a digital audio output.

The most interesting thing about it, however, is its Irdeto CAM – which can be re-programmed as an Allcam, capable of working not just with viewing cards for Irdeto-scrambled channels, but almost every kind of encryption around at the moment (except Videoguard). Wyzcom will sell the Delta-Sat receiver with the Allcam software installed, so you don't have to worry about connecting it up to a PC yourself.

The software is based on Windows-style menus trees, although they're nothing as slick or fast as offered by the latest from Microsoft.

The setup menus are pretty straightforward and sub-menus kept to a minimum – use Antenna Setup to choose the LNB type and whether you'll be using fixed or motorised DiSEqC dishes (or a mix of the two); Channel Search to scan for channels and align a motorised dish, and so on. There are sub-menus, accessed by pressing the menu key to display the menu tree, which will have any extra specific options at the top.

Some users may be confused by options which aren't supported by this model, such as an actuator-driven positioner and skew control. The same software is obviously common to all of Delta-Sat's receivers.

Up to 16 fixed dishes can be activated, selected with either DiSEqC or a 12V switch, and a full range of Ku-band and C-band LNBs. If you choose DiSEqC 1.2, movement limits have to be set before you can start finding satellites (which makes a lot of sense), and you can reset the mount if the limits need changing.

The Channel Search menu has a sensitive signal strength and quality meter, although it locks on at quality levels as low as 40 per cent. Dish movement is limited to one level, the dish going for as long as you press the east or west button (enough to achieve accurate peaks on quite small target satellites). Extra DiSEqC motor options include Goto Zero and re-synchronisation if your dish is out of alignment, but there's no USALS support for calculating positions automatically. Positions can be fine-tuned at any time from a special button on the remote if you're not happy with the signal quality while watching.

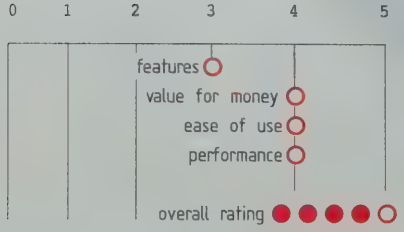
You can select from the list of transponders for each of the 50 listed satellites, or choose Edit mode from the sub-menu to enter your own alignment frequency. If the satellite you're seeking isn't in the list (the 50 satellites are spread around the globe), there are 78 empty slots for adding new locations. It's exceptionally easy to add and name a new satellite, or a new transponder. However, most DiSEqC motors will only support 50 to 64 positions, so you can't use them all. You can choose to search a single satellite or transponder, search for transponders from the same network provider, or search all your stored locations in an automatic sequence.

You can even specify PIDs to find a single channel, there's a wide symbol rate range of 2000-45000, and FEC is selected automatically.

Channels can be sorted into one of eight lists, which are all easy to edit and channels transponders and satellites can all be renamed, deleted, or locked with a four digit PIN, and you can control access to the menus as well.

Pictures are reasonable, although (as you'd expect) there was slight evidence of artefacting on some of the cheaper shopping channels. Audio is clean and crisp, especially using the digital audio output, which comes with Dolby Digital support for those channels that feature it.

Although the DiSEqC software could do with the addition of automatic satellite locating, the hacked CAM, huge memory and impressive features list still make this an attractive all-rounder.



Features: Irdeto/Allcam, DiSEqC 1.2, 5,000 channels, 128 satellites, symbol rate range: 2000-45000, 10-event, 1 year timer, 2 x common interface, coaxial digital audio output

Supplier: Wyzcom, Communications Cabin, 1 Orlock Road, Groomsport, BT19 6LW. Northern Ireland. Tel: +44 (0)28 9188 9199, www.wyzcom.com

PRICE £272. 59

⊕ Allcam option, value for money

⊖ No auto positioning

# Force D-Master 1145S

Force has for many years been a byword of quality in the world of satellite receivers and the D-Master 1145S is no exception.

The D-Master 1145S has a twin common interface plus both Viaccess and Conax CAMs. The D-Master 1144S is operationally identical, but has just a Viaccess CAM and is therefore £50 cheaper.

The remote control can be programmed to operate a TV and a third device (usually a VCR, but even a Sky Digibox). As well as a built-in database of remote control codes, this ergonomic handset can learn codes from new devices. It's one of the best handsets we've come across, with large, responsive buttons and clear labelling, even if some of the labels (for example, the PVR controls) don't apply to this particular model.

Force receivers are designed to be easy-to-use out of the box, with a simple sequence of menus that allow you to set up a fixed dish system for Thor, Sirius, Hot Bird and Astra.

The user menus may at first be confusing to some because of the reliance on the remote control's coloured hot keys to reach some of the useful setup menus, although this will soon become second nature. You shouldn't need to change the LNB settings or add new satellites very often, anyway.

Handily, the D-Master 1145S comes preset with more than 3,000 channels on Astra, Hot Bird, Sirius and Thor, but it is advisable to run a software update and channel scan when you take it out of the box. Force regularly supplies software updates, usually just updating the channel lists and encryption compatibility. The receiver is preset to check for messages about new downloads on Astra and Thor at 5am every day, provided you're plugged in.

The D-Master 1145S is set up by default to select between the four satellites mentioned earlier, using a four-way DiSEqC switch. This arrangement can be expanded using two-level DiSEqC 1.1, for up to 16 fixed LNBs, and with the likes of Force's Frontier dish from last month, this isn't so unrealistic any longer. You can select a universal LNB or a range of single band Ku-band LNBs, for each satellite, with the option to increase LNB output voltage by 1 Volt if you're using a long cable run.

The D-Master 1145S is capable of auto-locating satellites with a DiSEqC 1.2 motor, but rather than asking for your longitude and latitude like a USALS receiver, it calculates all positions from the angle between 1°W and 19.2°E, provided the motor (preferably a Force Skywalker or other STAB-manufactured DiSEqC mount) has been preset for your rough location.

New transponders are easy to programme; it's just a matter of frequency, polarity and symbol rate. Individual channels can be added by PID or the less commonly used Programme ID (this can be picked up on some websites.

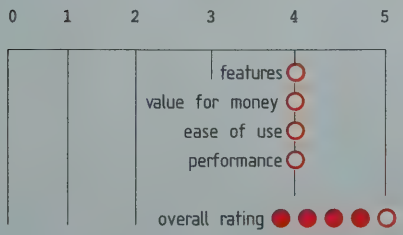
The automatic channel search is quick, even though you can't set it to only look for free-to-air signals, and you will have to scan each satellite individually.

There's an apparently unlimited number of favourites lists, plus preset lists for pay-TV packages, different languages and genres, all of which can be edited to suit your own needs. You can search for particular channels by name if those other features don't make life simple enough.

The 30-day timer can be set manually via the EPG, which shows up to seven days of information if available.

Pictures in RGB mode are stable and sharp, with rich, solid colours. Audio output via the analogue outputs is quite acceptable and carries little noise, but there's a predictable improvement in clarity using either the optical and coaxial digital audio outputs, and AC-3 decoding for Dolby Digital.

With its two built-in CAMs, the D-Master 1145S is an excellent value satellite receiver for the viewer seeking European pay-TV. However, hardcore feed-hunting enthusiasts may find the lack of manual scanning features unsuitable for their needs.



FEATURES: Viaccess and Conax CAMs, DiSEqC 1.2 USALS, 5,000 channels, 50 satellites, 2 x common interface, symbol rate range 2000-45000, 2 x Scart, coaxial and optical digital audio outputs, analogue stereo audio outputs, UHF loopthrough, 30-day timer

SUPPLIER: TPS, 182 Stamford Street, Ashton-under-Lyne, Lancs OL6 7LR. Tel: 0161 344 0123, www.tps.uk.com

PRICE £299

⊕ Easy to use, great performance

⊖ Channel lists may need manual updating

# Xtreme

Like the Delta Sat IRCI, the Xtreme has a little something extra going for it which makes it ideal for those eager to explore the often complex world of European pay-TV.

In this case, it's a Magic CAM, also known as a Universal Conditional Access System, or UCAS. European hackers have been modifying certain receivers with a UCAS for several years, the advantage being that it can be used to decode numerous methods of encryption, excluding Videoguard as used by Sky Digital.

Although this will work with legitimate viewing cards, in theory, all you need do is provide a smart card programmed via your PC with the codes for the channels you want. Be warned, however, that although information on how to do the latter is freely available over the internet, it is in effect piracy and not something we would condone doing.

The Xtreme is a very good-looking receiver. A drop-down flap conceals the UCAS slot and two common interface slots. The remote control is chunky, but contains every button you'll need and a few more besides.

Up to 32 antennas can be selected using fixed LNBs with DiSEqC or 12V switching, and you can have any flavour of Ku-band or C-band LNB you choose. Motorised users can have a standard DiSEqC motor where you find the positions manually, or an auto-locating DiSEqC motor with USALS.

You can search for channels on each satellite individually, or set up consecutive searches on as many satellites as you like. DiSEqC motor users can store positions from a maximum of 60 satellites, and you can choose to scan for all channels or just the non-scrambled signals.

The search is very quick, completing both Hot Bird and Astra 1 in less than four minutes each. There's a manual search for adding individual transponders, which allows full manual FEC control, network search, and PID entry for scanning individual channels.

You can add, delete, or change details for both satellites and transponder, although the preset satellite list of 53 birds is quite comprehensive. Channels can also be renamed, moved around, deleted or PIN-locked. PIN-locks are also available for the menus and the receiver as a whole.

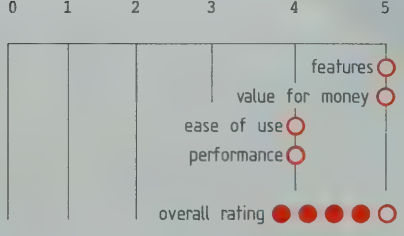
There are three favourites lists and the onscreen channel list itself is very helpful. Using the red function buttons, you can choose to view all satellites or just individual ones, and instantly sort channels into free, scrambled, forward and reverse alphabetical order, or even separate them by encryption type.

The attractive EPG displays now-and-next info for six channels next to a thumbnail view of the selected channel. There's also the option for seven-day listings, but few channels broadcast them in the DVB format.

Channel changes are very quick, although the UCAS module can take a few seconds to lock on when it has to look up the codes for a different network or type of encryption. The picture quality is generally good and sound quality is also very respectable, especially using the optical digital audio output which includes support for Dolby Digital broadcasts.

Though the lack of a manual isn't exactly helpful for beginners, the Xtreme remains perhaps the most versatile receiver in this particular group test, though we suspect its biggest 'universal' selling point won't be so unique for long.

'The Xtreme is perhaps the most versatile receiver in this group test, though we suspect its biggest "universal" selling point won't be so unique for long'




Editor's CHOICE

PRICE £249

FEATURES: Magic CAM, DiSEqC 1.2 USALS, 9,000 channels, 60 satellites, eight-event timer, 2 x common interface,, 2 x Scart, RS232 port, optical digital audio output, analogue stereo audio outputs

SUPPLIER: Digital Sales, Chip House, Byron Crescent, Coppull, Lancs PR7 5BE. Tel: 01257 471204, www.digitalsales.co.uk

⊕ DiSEqC with USALS, UCAS slot, digital audio

⊖ No manual

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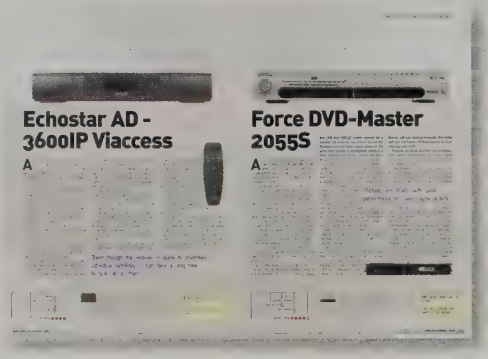

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WINTER 2003/4
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The new generation of satellite receivers offer the best viewing choice ever
FIXED How to get digital TV on your PC
IT'S A GIFT! TV gadgets you just can't live without!
FEED ME Get more TV from your dish with a multiple feed system
ANGEL DELIGHT Buffy's boy returns to Sky One
RULE THEM ALL We put together the ultimate sat system
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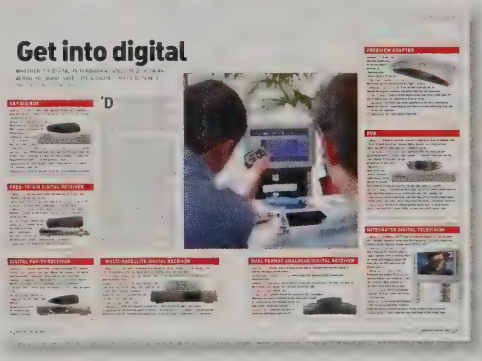
- Definitive reviews of the latest satellite kit. Every feature will be thoroughly tested and rated by experts
- More advice and guidance on putting together the best satellite system from those in the know
- Regular looks at cutting edge digital satellite TV technologies.



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# AMT Satcruiser

There's nothing new in integrating a satellite receiver and television, but the Satcruiser is the first to try this with an LCD TV. It's an expensive option but the result looks great; all thin, gunmetal blue and silver, and sitting on an elegant tilt-and-swivel stand.

The Satcruiser is an LCD monitor with an analogue TV tuner and digital satellite receiver stashed away inside. You switch between functions with the remote (or the front panel buttons). As a monitor, it can be connected to a PC and automatically fills the screen (all 17in of it) with whatever resolution your PC is putting out, up to a maximum of 1280 x 1024 pixels.

The analogue terrestrial TV tuner is not too clever. Although the Satcruiser automatically tunes in the channels, you cannot then re-order them, say, to put BBC1 first. And there's no teletext – which is seen in the cheapest portable these days.

For satellite there is just one LNB input, but this will drive a DiSEqC LNB switch or motorised dish mount so there's plenty of scope for multi-satellite reception. A list of transponders and tuning parameters is stored in the receiver for each satellite available so it can scan the transponders for the channels broadcasting.

A common interface socket on the side of the screen will take a CAM, so the Satcruiser can be used for encrypted services (although Sky Digital is not possible). All, or just FTA, channels can be chosen and when the stored list gets out of date, new transponder details can be entered.

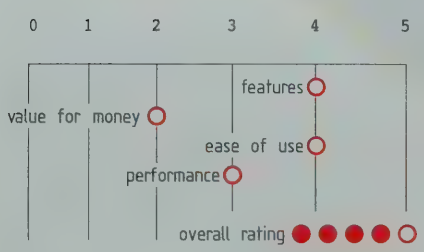
Accessing the many channels that a multi-satellite antenna provides is simple enough. A list of channels from one or all satellites is displayed and this can be automatically arranged in alphabetical or frequency order, or with FTA or encrypted channels first. Alternatively, you can order the channels yourself, create a favourites list, and even change their names.

In use, the Satcruiser displays a channel's name, list number, transponder details, network and audio selection. The Guide button displays the current and next programme details, along with a small view of the channel in a window, and you can scroll through to details of the programmes on other channels.

There's no proper event timer, but the Satcruiser can be set to turn on or off at a particular time in the next 24 hours.

The Satcruiser produces an excellent PC or satellite image and the sound is remarkably good through the tiny speakers on each side of the screen. However, terrestrial TV yields rather grainy and noisy images.

Nevertheless, this is a luxurious bit of gear that is sure to impress visitors. It's not really an enthusiast's machine, but if all you want is to actually watch satellite television, this is a classy way to do it.



FEATURES: Integrated PC monitor, terrestrial tuner and DiSEqC satellite receiver with 17in LCD screen, 3640 channels, 32 satellite positions, 1 LNB input, DiSEqC 1.2, 1 x common interface slot, auto and selectable FEC, symbol rate range 1000-45000, EPG support, stereo audio output, digital audio output, composite video output.
SUPPLIER: The Satellite Company, 3 Pier Road, Littlehampton, West Sussex BN17 5BA. Tel: 0800 074 9150, www.thesatellitecouk.com

PRICE £695

⊕ Very elegant. Fully integrated

⊖ Expensive. Relatively poor (and analogue) terrestrial tuner

HUMAX

# Setting The Standard

## F2 FREE

• MPEG-II Digital & Fully DVB Compliant. Max. 2500 channels receivable. Channel list mode in All, Favorite, Satellite. Finding channels by name (optional). 5 Favorite channel groups (Max. 100 channels in each group). DiSEqC 1.0, 2.0 compatible. Teletext supports DVB ETS300472 by VBI insertion. PAL/NTSC compliant OSD mode. Software Upgrade via OTA and serial connection (RS-232C). User-friendly EPG and Information Plate.

## DV1100S

• Digital Set-top box. Scrambled channel receivable with CI modules. MPEG-2 Digital & Fully DVB Compliant. Max. 4000 channels receivable. Channel list mode in All, Favorite, Satellite, Scrambled.Finding channels by name. DiSEqC version 1.0, 1.2 and USALS compliant. Dolby Digital Audio Output. PAL/NTSC compliant OSD mode. Video format in 4:3, 16:9 and letterbox. Software Upgrade via OTA and serial connection (RS-232). DVD player MP3 / Audio CD / VCD / Photo CD / CD-R, RW / DVD-R, RW / DVD+R, RW, SVCD SVCD (Super Video CD). TruSurround Sound.

## CI 8100PVR

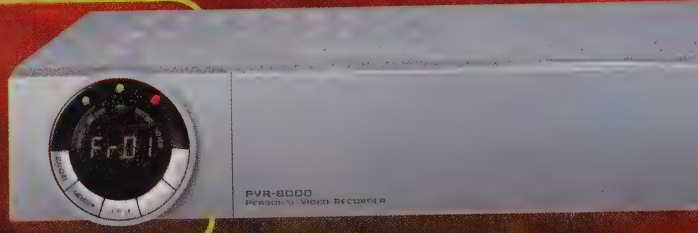
• Personal Video Recorder. Momentous pause and play with button during A/V watching. Fast Forward & Fast Rewind in various speeds. Jump to live program. Slow Motion to Forward & Backward in various speeds. Built-in hard disk drive. Digital Set-top box. Scrambled channel receivable with DVB CI. MPEG-II Digital & Fully DVB Compliant. Max. 5000 channels receivable. DiSEqC version 1.0, 1.2 USALS compliant (2.0 compatible) Dolby Digital Audio Output (optical). PAL/NTSC In and Out. Video format in 4:3, 16:9 and letterbox. User-friendly EPG and Information Plate. The simple installation and operation, user-friendly three dimensional OSD, highest quality audio output with Dolby Digital Audio, and advanced video clarity made for TV and VCR are all designed to enrich the viewer experience.

## F2 FOX

• MPEG-II Digital & fully DVB Compliant.
Max. 2500 channels receivable. DiSEqC version 1.0, 1.2 and USALS compliant. Dolby Digital Audio Output (optical).Video format in 4:3, 16:9 and letterbox. Software upgrade via OTA and serial connection (RS-232C). User-friendly EPG and information plate. In addition to providing more channels with the new highly sensitive tuner, F2-Fox boasts the enhanced Electronic Program Guide (EPG) and information plate that enable subtitles and teletext for a bounty of useful information on programs and broadcast signals.

## PVR 8000

Personal Video Recorder.
Recording of one channel and simultaneous viewing of another. No videocassettes are necessary, recording with hard disc drive




**ALSO AVAILABLE:**

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# Freeview watch

## SATELLITE & DIGITAL CHOICE PRESENTS A REGULAR ROUND-UP OF THE LATEST FREEVIEW ADAPTERS

**TV WINNERS**

| | |
|---|---|
| Echostar T-101FTA | £80 |
| Philips DTR1500 | £100 |
| Sony VTX-D800U | £115 |

Since the launch of Freeview a year ago we've seen a steady stream of Freeview-ready set top boxes arriving in the high street.

Clearly, the lure of 30 TV channels and 20 radio has been great for the estimated 1.5million owners of Freeview boxes, in the UK who've rushed to embraced the chance to receive free digital terrestrial TV through their TV aerial.

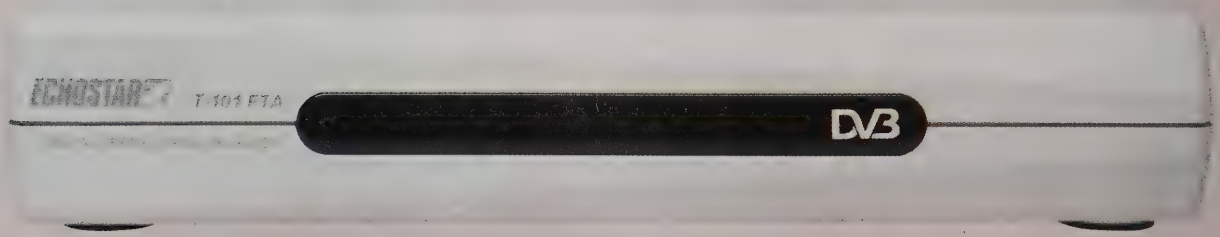
Freeview adapters currently come in all shapes and sizes from basic 'plug-and-play' adapters to combination DTT/DVD players and even a hard disc-equipped personal video recorder (PVR) in the shape of the Pace Twin Digital Recorder (which is the first of many such products to come over the next few months).

What's more, just as with DVD players, heated competition between manufacturers means that prices are falling all the time. Already we're seeing adapters coming on to the market priced around the £60 mark whereas a year ago you couldn't pick one up for much less than £100.

Indeed, while we've reviewed the following on the basis of their 'guide' price, shop around (especially on the internet) and you may well find them for a lot less.

For tips on what to look for in a Freeview adapter, see our Buyers' Guide on page 83.

In the meantime, here are three Freeview adapters for your consideration.




# Echostar T-101FTA

This plastic-cased receiver is no bigger than a hardback novel but there's room on the back panel for two Scart sockets, for TV and VCR, as well as the expected UHF aerial loopthrough.

This is the first surprise. The T-101 has no modulator so it cannot be used with a Scart-less TV or with a UHF distribution system for TVs in other rooms you'd have to buy more Freeview boxes.

There's not much else in the way of connectivity either; no S-video socket, no digital audio out, not even stereo audio outputs.

However, the remote control is a better-than-normal design and the T-101 performs well enough. It seems to have a better-than-average sensitivity tuner as it tuned in the marginal multiplex at the test signal without difficulty.

It has the MHEG-5 software required for interactive teletext, and it's fairly fast to change channels and to load up text pages.

Programme information can be had from the banner display giving now-and-next programme titles (and a synopsis with another press of the 'i' key) and text and subtitle flags, or the guide's 10-channel grid of details. Here you can set reminders (up to 10) to flash up a message onscreen when a programme's about to start. However, there's no check for programme time clashes. An event timer (eight events) handles recordings while you're out.

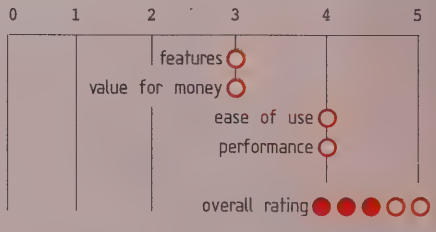
A nice feature is that all onscreen menus appear over the TV picture, but there are no straightforward volume control (or mute) keys, just high/medium/low settings within the menu system, affecting all channels at once.

The T-101 doesn't really give a feeling of a prestige system.

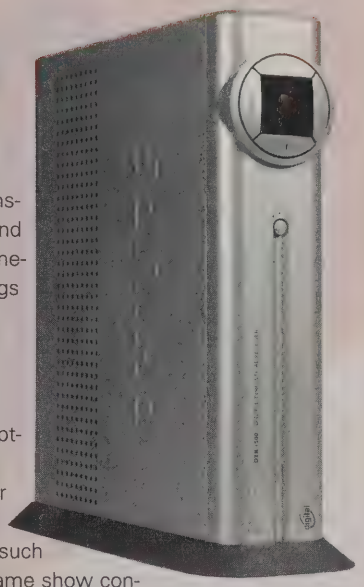
Nevertheless, there are no hugely important missing features, and it's cheaper than many.

PRICE £80

SUPPLIER: Echostar, Tel: 0870 080 2350, www.echostaruk.co.uk,
FEATURES: UHF loopthrough, 2 x Scart, MHEG-5 software



# Philips DTR 1500



Like the Sony adapter below, the DTR 1500 can be stood both vertically (a stand is supplied) and horizontally, making for a tidy fit in any box-busy AV setup.

The fascia is sparsely furnished with a circular arrangement of operating buttons surrounding a square LED window and a small standby button underneath. The back panel offers plenty to get excited about though, with two Scarts, a UHF loopthrough and both stereo phono and digital coaxial audio inputs all present and correct. The remote control is small and lightweight and not dissimilar to that found on Philips TVs. Tuning is automatic and quick, although rather annoyingly the lack of a signal is accompanied by a loud alarm-like beeping sound (this can be switched off if you wish). Philips claims that the DTR 1500 uses its so-called 'pulse killer' technology, designed to reduce localised interference from electrical appliances and the like. Although it's not dramatic, we did notice a small increase in signal quality overall.

The slick-looking menu system is easy enough to navigate, though its heavy reliance on PC-style icons and generally busy feel can be hard on the eyes when browsing on small-screen TVs.

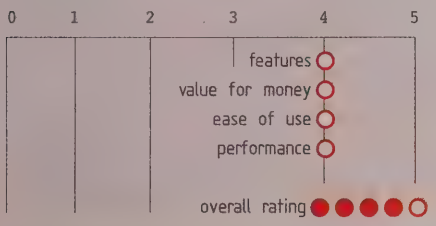
It is, however, brimming with configuration options. Up to four favourites lists can be created for both TV and radio channels, there's a comprehensive eight-event manual timer option, and support for interactive services as well. There's a full-screen now-and-next EPG and a parental lock option, and even menu transparency and banner timeout settings can be altered.

Picture quality is very acceptable, with only minor noise in evidence such as on a game show contestant's checked shirt. Sound quality is exceptional especially listening to radio via the digital coaxial output.

The DTR 1500 has much to recommend it. It comes at a very attractive price considering what's on offer and connectivity and performance are excellent. Out of the two, however, it's the Sony model that shines the most with its more user-friendly menu system and seven-day-ready EPG.

PRICE £100

Features: UHF loopthrough, 2 x Scart, digital coaxial audio output, MHEG-5
Supplier: Philips, Tel: 0870 900 9700, www.philips.co.uk




# Sony VTX-D800U

Editor's CHOICE

The other vertically standing Freeview adapter in this issue looks less 'comfortable' in the horizontal position than its rival, but otherwise it noses ahead of the DTR 1500 in terms of overall usefulness.

That said, it's still fairly wide and bulky for a Freeview adapter, although the elegant pedestal stand offsets the blockish feel rather nicely.

The frosted front panel displays just two LEDs for power and standby and two buttons for channel changing. The rear panel sports TV and VCR Scarts (both RGB), a UHF loopthrough and, nestling next to the power lead, a combined optical digital/analogue audio output.

Remote controls don't usually give you much to sing about on Freeview adapters but the bold, silver wand-style effort on the VTX-D800U still makes clever use of icons such as labelling the Favourites button with a heart symbol.

In a nice touch, rather than watch the channel tuning progress bar fill up, you can browse through the Features Pages, a novice-friendly guide to the basic functions of the receiver.

Setup complete, the menu system on the VTX-D800U proves to be a well-organised, predominantly grey and yellow affair that conceals a wealth of options.

There's a forward-looking three-quarter screen seven-day EPG (although only now-and-next info is currently broadcast), Favourites lists can be created and there's an eight-event manual timer option with Smartlink compatibility for easy VCR recording. Also featured are MHEG-5 support for interactive services, a choice of 4:3 or 16:9 aspect ratios and PIN-protected parental lock options.

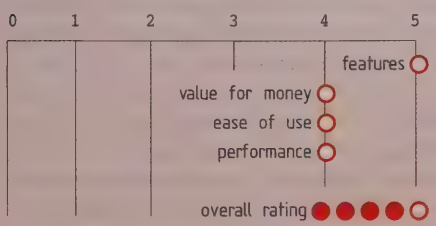
Picture quality is well above average even with a relatively weak signal. Colours are bright and well-contained watching Sky News and artefacting is kept to a minimum.

Connecting the VTX-D800U up to an amplifier, meanwhile, brought pleasingly crisp and hiss-free results.

Considering the buzz surrounding Sony's forthcoming PSX HDD/DVD recorder/Playstation2 hybrid, fingers crossed that a Sony-branded Freeview-ready PVR product to rival the Pace Twin isn't too far behind this excellent adapter.

PRICE £115

Supplier: Sony
Tel: 08705 111999, www.sony.com
Features: UHF loopthrough, 2 x Scart, optical digital/analogue audio output, MHEG-5 software



# One for all

YOU DON'T NECESSARILY NEED A MOTORISED SYSTEM TO WATCH TV FROM MORE THAN ONE SATELLITE. IN THE SECOND PART OF OUR SATELLITE BASICS SERIES, WE SHOW YOU HOW TO PUT TOGETHER A MULTIPLE FEED DISH SYSTEM

One the best things that can be said about having a Sky system is that at least all the channels you want are on one satellite. Once you start looking farther afield for your TV channels, however, you find you need a system that's capable of tracking multiple satellites.

A moveable motorised dish would seem to be the obvious solution, but it's also expensive and extravagant if all you want is two or three positions, rather than the entire sky.

You could, of course, have more than one dish, but this is an unsightly option, to say the least. A better alternative is to use a dish with multiple feeds.

A satellite dish is like a mirror to the microwave signals from satellites, and signals from a slice of the geostationary arc are reflected. These form focal points, just like the main focus of your dish, although they're weaker because the dish doesn't concentrate the signal as efficiently as its main focus. Place an LNB on a secondary focus, and a single fixed dish can pick up another satellite.

The reflection of the satellite arc is a mirror image, so for satellites to the West, an extra LNB has to placed on the eastern side of the prime focus. There will also be a vertical offset of a few degrees, again mirroring the path of a geostationary arc.

The weakness of the offset signals was a problem in the early days of satellite TV, but today's satellites are so powerful that a 60cm dish can be used to pick up both Astra 1 and and Astra 2/Eurobird, which are nine degrees apart in the sky.

Installing a multi-feed system isn't a job for the absolute beginner; you'll need a decent signal meter to start with – although it is a task we'll return to later. However. it's not hard for the seasoned pro, so it shouldn't cost much extra on top of a basic fixed-dish installation.

Using a feed arm widens your dish's range

The usual tool for achieving a multiple feed system is a multi-LNB arm, which clamps on the feed arm of the dish, allowing you to attach one or more extra LNB. There are other ways: special dishes have been developed which focus multiple signals more strongly than a traditional parabolic dish across a much wider arc, and monoblock LNBs, which usually work for satellites spaced six degrees apart but are much simpler to install.

The satellites you're looking for will affect how you decide to mount the secondary feeds. If one satellite has a weaker signal it's best to make that the prime focus and put the stronger satellite at the secondary. If they're equally strong, then the prime focus can be aimed at a point midway between the satellites and both will be at equally strong secondary focal points.

The advantage of a multiple feed system is that it's cheaper than a motorised system, there's no delay in switching between satellites and, as it has fewer moving parts, it's less likely to go wrong. On the other hand, you're still limited to a handful of satellites.

## MULTI-FEED ARMS

The cheapest way to go from a single feed to a multi-feed system, multi-feed arms come in many shapes and sizes. All of them clamp on the main feed arm, usually just in front of the prime focus LNB.

Some are fixed for a given separation, such as the six degrees between Astra 1 and Hot Bird, others are adjustable to suit any position up to several degrees away from the prime focus.

They may hold just one extra LNB or several, although there's obviously a limit to how many extra LNBs can be mounted on one dish. LNBs are heavy, so too many will distort the reflector unless it is designed for the task, not to mention being a danger in high winds if they start bouncing around and damage the dish construction.

Some LNBs are also too large to fit closely together on a multi-feed arm.

## MONOBLOCK LNBS

Designed to make life easier for the many people who want to get both Astra 1 and Hot Bird, monoblocks combine two LNBs in one housing, with a switching mechanism (usually DiSEqC) and a single output. They're usually designed to pick up two satellites six degrees apart – such as Astra 1 and Hot Bird or Sirius and Thor – and fit on a dish in place of the prime focus LNB.

## SWITCHING

The final consideration of a multi-satellite system is switching between the signals. You can either have two downcables switched at the receiver, or one downcable

switched at the dish, which will need waterproofed equipment.

The cheapest method is a manual switch, which can be tedious to use long term, although remote control versions are available. Many receivers have a 0/12V switch output, which can be used to control a switch that selects between two satellites, but it requires another cable running to the switch unit.

A more elegant solution is DiSEqC, which sends a burst of data along the LNB cable with the same 22KHz tone used by universal LNBs to select between the high and low frequency bands.

Mini-DiSEqC (or Tone Burst) is an early two-way version of the system, but both the two-way and four-way switches available today use the standard DiSEqC protocol. Some receivers can use a more advanced protocol known as DiSEqC 1.1, which can send a second burst of commands to select between four more switches attached to the first – allowing up to 16 LNB selections.

DiSEqC is now the industry standard for LNB switching, and is usually built into monoblock LNBs as standard.

## POPULAR MULTI-FEED SATELLITES

**Astra 1 and Hot Bird:** The most popular satellites for multi-feed viewing at 19.2°E and 13°E. These are high power satellites which, with a six degree separation, can both be picked up a 70cm dish in the UK (80cm in the North)

**Sirius and Thor:** A very popular choice in Scandinavia, where these satellites at 5.2°E and 1°W are very important spots. A large dish (at least 1.5m) is required to get the most from both spots using a dual feed system

**Astra 1 and Astra 2/Eurobird:** At 19.2°E and 28.2°E/28.5°E, it's possible to pick up both with a carefully aligned 60cm dish in the UK, and you can get Hot Bird with a third LNB on the other side, using an 80cm or 1m dish.

**E-Bird and Astra 2/Eurobird:** E Bird at 33°E is key to the provision of broadband internet-by-satellite internet services. Both satellites are powerful enough that a dual-feed system will be possible with a 60cm dish (maybe even a 45cm minidish).

**Astra 2/Eurobird, Astra 1, Hot Bird and Thor:** The ultimate multi-feed challenge, but it's possible to pick up all these satellites, from 28.5°E to 1°W, with a 1m dish and a lot of patience.

**'The satellites you're looking for will affect how you decide to mount the secondary feeds'**

## UNUSUAL DISHES

Computer-aided design and advanced materials have made possible specially shaped dishes which create several strong focal points from different satellites across a wide arc of the sky. A range of 20 degrees isn't unusual, and satellites as close as three degrees apart can be picked up separately.

The simplest of these, like the Bisatellite from Visiosat, can focus just two or three strong signals. Toroidal designs use a secondary reflector and complex geometry to create a strong focal line along which LNBS are arranged.

Finally, there are multi-satellite dishes using unusual materials, such as the Cybertenna, which focuses signals along a donut of polymer lenses. The main disadvantage of a specially shaped dish is that most can't be used in a fully motorised system if you ever decide to go down that route.

GOT A PROBLEM WITH YOUR SATELLITE OR FREEVIEW SYSTEM? WRITE TO US AT:
SATELLITE & DIGITAL CHOICE HELP! HIGHBURY-WV, HIGHGATE ROAD, LONDON NW5 1TW

# Help!

## Freeview with style, and two Scarts

Q In the market for a Freeview adapter, I've seen that there's a large selection on offer at or below the £100 mark, but I'm not impressed with their build quality or their connectivity. I've got a widescreen Philips TV with Dolby Digital decoder, and want to make the most of that. It's important to me, too, that whatever I buy is easy to operate and will look good alongside the other gear I have.
*– Keith Haskell, via e-mail*

A ***Although competitors have appeared since last spring when it was released, my best recommendation for you is the Nokia Mediamaster 221T. It has both analogue and digital audio outputs, along with dual Scart sockets: one for your VCR or disc recorder, and one for your TV. Build quality is good, and this one's performance – even in the face of weak and interference-prone signals – is excellent.***

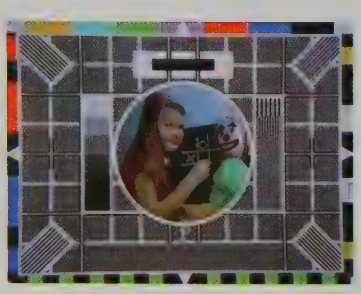
***One of the best features of this model is its user interface, with a 'dual scrolling bar' (Navibars) selection system. You can get more details, and a dealer list, on 01793 556046, or at www. nokia.com/multimedia***

## A testing time

Q My home entertainment system has grown over the years, and now includes both plasma and projection TVs, surround-sound amplifier/receiver and, of course, a Sky tuner. I had hoped that one of the satellite channels would have broadcast a test card like that on page 63 of your Autumn issue, and an audio tone – at least in the night – to assist with checking and setting up my gear. I've looked in vain! Is there a 'black box' which can do this? If so, what would it cost and where can I buy one?
*– J. M. Tranter, via e-mail*

A ***Test cards are sometimes fleetingly seen on satellite TV, but there's no money in broadcasting them, and (call me cynical) only money motivates broadcasters.***

***You can get black-box test card generators, but full-Monty ones are not cheap: they start at about £200 from CPC on 08701 212981. If you're good at electronics construction and can spend £75 go to www.video-corner.co.uk. Other alternatives are test cards from DVD disc or, not so good, VHS tape. These too are sold by CPC.***



## Christmas diversions in Wales

Q My two sons have latched on to the games on Sky TV, and I want to buy them for Christmas a pair of gamepads, hopefully without trailing wires for us to trip over. Where can I get them at a good price?
*– Mrs W. Evans, Cardiff*

A ***You can buy two separate gamepads from Sky at £20 apiece, but you'll do better with Wiltsgrove on 0121 7722 2733, which offers a complete cordless dual pack at just over £28. Included with it are batteries, a power supply and an infrared receiver which plugs into the RS232 serial port on the Digibox.***

***Mr S. French is looking for accessories of a different kind – a complete dish installation kit, with which he's going to brave this winter weather and D-I-Himself. He's a kitchen fitter, not much impressed with the dish jobs done on some of his neighbour's houses. Talk to the friendly people at HiSat, whom you can reach on 0117 972 1814. Does your kitchen service kit include a ladder and warm gloves?***

## Peace of mind on holiday

Q We are off on holiday over Christmas, our first-ever away from home. I'm anxious that everything should be safe while the house is unattended, and propose to disconnect, amongst others things, our Sky box from the mains. I guess that will disable its telephone dialler. Am I likely to get into trouble with Sky over that? And do you recommend pulling out the wall plugs while we're away?
*– Adam Parker, via e-mail*

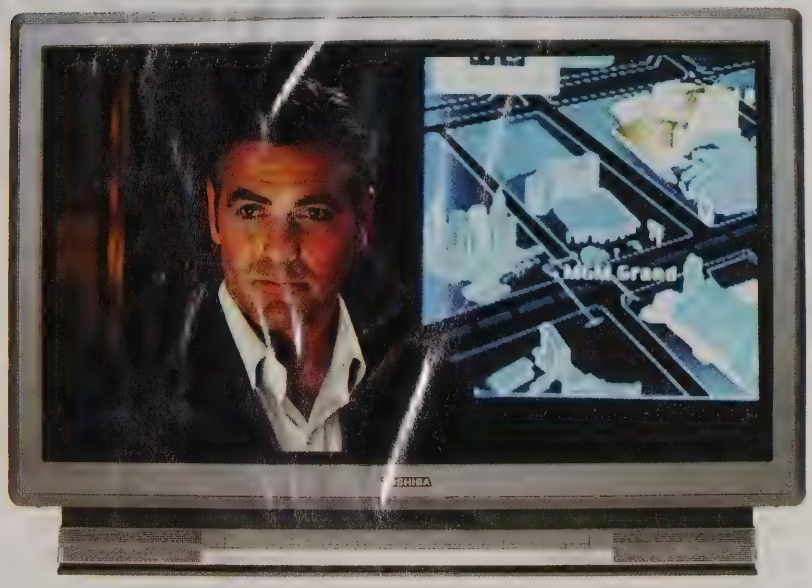
A ***Yes, I do, and more to the point so does the fire brigade! I've known TV sets and other equipment come fully to life after a power cut, and there could be repercussions with your insurance company if anything untoward happened in your absence. It would take much more than a week off the phone line to wake up Sky, though after long periods of disuse a DTV box sometimes needs a forced download (bring on mains power with the back-up key held down) to come back into the real world.***

***On the phone-connection front I've heard of £26 per month Direct Debit 'fines' for sustained breach of contract here. Does any reader have experience of this?***

## HDTV – at last

Q Having heard that high-definition TV is about to start in Europe soon, I wonder if you can fill in any details – and give readers a clue as to whether we can receive it on ordinary equipment?
*– A. Hawksworth, Lincoln*

A ***Good news and bad! In a month or so the European Hi-Def TV system is due to start. At present there are test transmissions from Astra 1 at 19·2°E: frequency 12.168GHz/V, symbol rate 27500, FEC***



Ocean's Eleven on Sky Movies, courtesy of BSkyB

***3/4. It's called Euro1080, and is capable of stunning picture definition on, for instance, a large-screen, high-resolution plasma TV.***

***The sorts of satellite receiver we have at present, although they can tune the signal in, cannot cope with the very high data rate involved in these transmissions: pixellation, software crashes, fragmented images and suchlike are the results. No doubt suitable receiving gear will be made available for them, but it will need very large data stores and vast memory/recording capability. We at S&DC will keep you posted on progress.***

## Texting – old style

**Q** At present I have a choice of BBC TV reception: a rather grainy picture via my conventional TV, and a good one through my satellite receiver, which is not a Sky type. While I can get Teletext (Ceefax) pages on 'ordinary' BBC programmes, I cannot do the same with the satellite-borne ones. I use the text service a lot, and this is one factor which prevents me abandoning my aerial system at present. Any suggestions?
*– Desmond Field, via e-mail*

**A** ***While it continues to broadcast conventional Teletext signals on analogue broadcasts, the BBC has abandoned them on its satellite transmissions. Non-Sky digital receivers cannot decode the Beeb's digital text datastreams, so I'm afraid you're stuck unless you go over to a set-top box designed for Sky reception.***

***Maybe you'll choose to keep your old aerial and receiver in place because Text services are important to you. Other readers take note. Although Teletext is taking a back seat these days it's still well used in some quarters.***

## Heavy metal

**Q** Please help me! I've got a Pace Digibox which I see from its old receipt is a model 2500. My son dropped a hot smoothing iron on to it. Don't ask me how or why! The cabinet top was badly dented and abraded, and the front panel broken. Dealers I've spoken to want £60-£70 just to look at a box in the workshop. Is there any cheaper solution to this? Do any readers have, perhaps, a 'dead' box with a good cabinet?
*– June Neville, Leeds*

**A** ***The parts you need are available as a set for £20 plus carriage and VAT from Satellite & Digital Services Ltd on 01271 325888. They are often used in refurbishing these receivers for resale; for other readers who may be interested similar kits are available for different makes and types like Amstrad and Panasonic.***

***It's vital that the replacement job is done by somebody competent, with the mains unplugged.***

## Giant TVs

**Q** I've just gone over to Freeview TV, and I'm thrilled with the range of programmes I get, and the picture/sound quality – it's much better than the old system, and well worth the aerial upgrade I had to have.

Now I want to improve the TV, with a big cinema-type screen, but not a projector: my viewing room is not a 'dedicated' one. How big do direct-view screens go?
*– William Shah, North London*

**A** ***In large direct-view screens you have the choice between LCD and plasma. LCD types are currently available up to 40in diagonal at about £6,500, while plasma models range up to 63in (NEC, Sanyo) at prices between £14,000 and £17,000. Lots of money, much more than you would pay for an equivalent size in a front-projection system.***

## The Daewoo has crashed

**Q** My Daewoo Freeview adapter keeps crashing. It's happened four times, usually when I change channels or switch it on. When it plays up, none of the remote control keys work, nor does the standby button on the front panel; the only way I can get it to play ball again is to pull out the mains plug for a while. When power is restored it works OK – until the next time! The dealer doesn't seem interested, suggesting that the cause is a poor signal.
*– Alan Ross, Wallingford*

**A** ***Poor contact in the mains socket or 'spikes' on the AC supply can cause this. Feed the Daewoo from a separate wall socket; if that doesn't work you can try a spike-killer plug or adapter in the mains supply line.***

***If the fault persists the signal could just be responsible, but this seems unlikely. I believe the dealer should replace this one for you, especially as it will still be under warranty.***

***Nigel Munro, I'm sorry to hear of the delay in the repair of your DTV box. Very few dealers can cope with these repairs themselves now, but manufacturers are working hard to reduce the turn-round time.***

***Last October LG demonstrated the largest plasma screen to date, a 76in model, at a show in South Korea; no price was given! In general, plasma prices are set to drop, and you can take advantage of this if you're prepared to wait.***

## NOT free-to-air

**Q** My house is in an area currently unserved by either analogue Channel Five or Freeview, and there's no indication that either are coming soon. I have gathered that the mainstream independent TV channels are no longer available free on satellite TV. Before I contact Sky and trigger heaven knows what in the way of sales calls, offers and junk mail, can you tell me the minimum I'll need to pay to get these (and whatever else is going at the lowest subscription level) on satellite if I have it installed?
*– M. Gilbert, E Sussex*

**A** ***You will need to buy a set-top box and dish package, and pay to have them installed. Shop around amongst local independent and 'chain' retailers and our advertisers for these. Sky won't offer any big discount deals for them on a minimum-subscription basis! The lowest-level package costs £6.25 a month and gives you a good bouquet of programmes, including the five terrestrial channels. If you're quick there's still time to take advantage of the free-to-air card offer which ends December 31, 2003 (see Newsfeed page 7 for details).***

## PC-based satellite set

**Q** I'm an IT/computer student at Bradford University, deeply into video-editing and the like (my girlfriend is on a media studies course), and I'm looking for something very specific in a PC-card based satellite receiver. Not only because I don't have a TV set in my room here! It needs to be cheap, capable of working with Windows 2000, and – above all – to have a software MPEG decoding base. The next step after its acquisition will be a motor-driven H-H dish mount.
*– Mark Fletcher, via e-mail*

**A** ***Check out the Technisat Skystar 2 receiver card. It requires a spare PCI slot and works with Windows 98 to XP at processor speeds of 700MHz up, the faster the better. Other support systems needed in the PC are DirectX 7 or later; Service Pack 2 from Microsoft; and Windows Mediaplayer version 7 or 8.***

***The software-based MPEG decoding system used here is very versatile in multi-satellite and hi-def TV reception. The cost of this prodigy is a mere £59, and it's sold by Sat Europa Direct on 0845 130 3111. Of more interest to you, perhaps, is their website www.sateuropa.co.uk***

## From Italy to Ipswich

**Q** My aunt, a much-travelled lady, has finally retired and is coming now to settle in East Anglia. She is an Italian, having married my uncle here 30-odd years ago. Because I work in the trade it has fallen on me to see if it's possible to get Italian TV for her, but I've made little progress.
*– Andrew Brook, Ipswich*

**A** ***Yes, it is possible, but unless you've got somebody in the family who is both technical and handy, I would suggest you put yourselves in the hands of an expert dealer and installer. Your best prospect is Hot Bird 13°E, for which you'll need a 70cm or 80cm dish here in the UK. This satellite cluster carries a vast range of programming, amongst which are bunches from RAI at 11·766GHz and 11·804GHz, carrying between them many popular Italian programmes. A Sky Digibox will not be suited to reception of them; you'll need a free-to-air digital box at maybe £200. You can now get them with built-in recorders at extra cost. See the advertisements in this issue.***

## Corruption in a flash

**Q** My Grundig Digibox, a first-generation type, developed an intermittent fault whereby the picture would spasmodically freeze, with sound dropout, when the room was cold.

Reliability, I found, improved with temperature. Anyway, I tried a reset and forced download by switching off the box then restoring power with the back-up key held in.

That made things worse. Regardless of mains resets or anything else I do, the thing now seems to have got stuck in 'download' mode. I would be pleased to have any suggestions.
*– Stan, via e-mail*

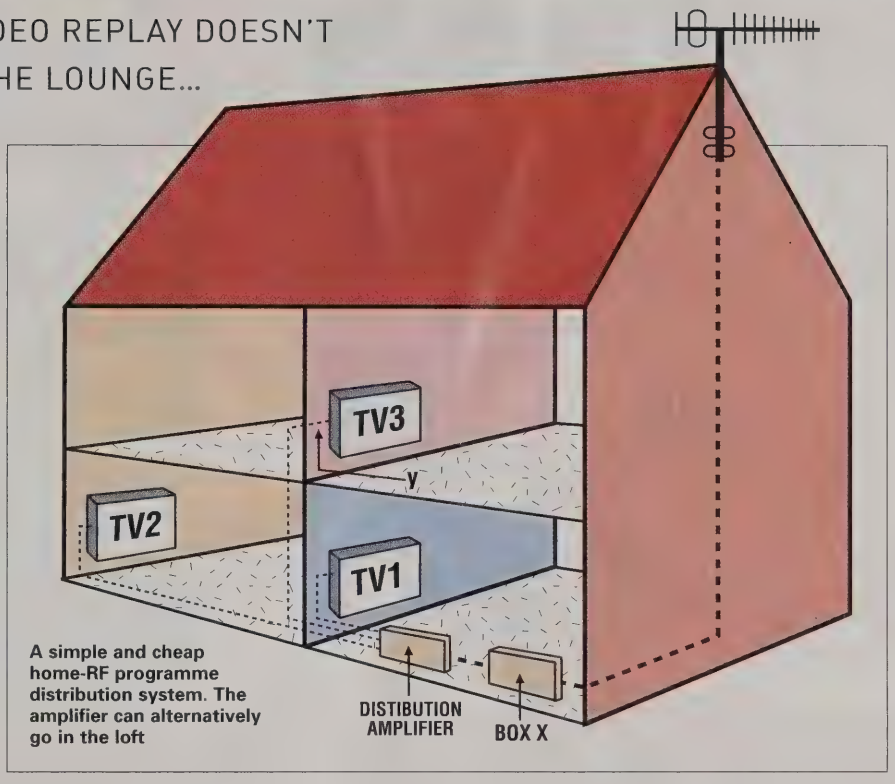
**A** ***The news I have for you is not good. The original problem would have been due to a fault in the receiver's power-supply section, probably relating to electrolytic capacitors.***

***When, under these circumstances, a forced download is invoked, the 'codebook' in the internal data stores – flash memory chips – becomes corrupted. The result is that all four of them have to be replaced, and the original fault cured.***

***This one needs professional attention.***

# HOW TO... distribute DTV programmes around your home

## DIGITAL TV VIEWING AND VIDEO REPLAY DOESN'T HAVE TO BE CONFINED TO THE LOUNGE...




**A simple and cheap home-RF programme distribution system. The amplifier can alternatively go in the loft**

TV is an important aspect of leisure, and increasingly now it's being delivered by datastreams – via a dish, an aerial or a cable. It's easy to pipe digital TV around the house or flat: indeed, you don't necessarily need wires for this at all, as we shall see.

A wired distribution system is based on a distribution amplifier, which can be under the eaves, in the loft, or sitting behind the TV. You can buy them in DIY stores. They have one input (aerial) socket and multiple outputs, each of which goes to a TV in another room. This facilitates individual analogue programme selection on each set (see diagram), and also viewing of the programme that's being received by the digibox, shown as Box X here. The Sky (or whatever) programme is tuned in on the remote TV sets just like the other broadcasts, and the Digibox can be controlled from, for instance, the bedroom by its own zapper using the inexpensive Remote Eye extender, which uses the co-axial cable as a control link back to the Digibox. It hooks in at point Y.

The same can be done with a Freeview adapter merely by putting it in our box X. If you want to drive that from another room you'll need a more expensive remote-control extender like the Powermid. In either case it may be necessary to retune the RF output channel of the Digibox to avoid carrier-clashes and consequent patterning on the picture. If you don't want cables draped around the place you can use a videosender and as many matching receivers as you require – these feed the 'slave' TV sets' Scart sockets, give better pictures than RF cable networks and can even convey stereo sound. Their senders plug into the Scart/AV sockets of the source Digibox, DVD player, VCR or whatever. Some videosenders incorporate remote-zapper extenders for controlling the source from another room.

So far so good, but what if you want to have a choice of DTV viewing in the bedroom or kitchen rather than be tied to whatever's tuned in on the lounge Digibox? For Freeview – that's terrestrial digital TV – the distribution system already shown can be used, with an adapter box at each remote TV set, so long as the amplifier, signals and cable are of decent quality and in good condition. The Freeview carriers pass through the network at UHF in just the same form as they are broadcast. With adapters now down to £60 on the street this is becoming viable. The same network is amenable to use with IDTVs and Freeview recorders like the Pace Twin.

**'It's necessary to use a multi-output LNB to feed each Digibox separately and via its own cable'**

Some people find Freeview's limited programme choice insufficient, especially those who are into sports or movies. Yes, it's possible to have satellite TV in one or more secondary rooms in your house, but that's not as simple or cheap as with Freeview. An ordinary cable network like that shown in our diagram cannot convey satellite signals because the Digibox sends programme-dependent electrical commands to the outdoor LNB. Thus it's necessary – as planning authorities permit only one dish per dwelling – to use a multi-output LNB to feed each Digibox separately and via its own cable. Such LNBs are now available with two, four and eight outputs, the latter (Octo) is newly available from Teléves on 01633 875821. There are no environmental restrictions on how many cables can flow down the wall from an LNB!

The use of additional Sky Digiboxes obviously involves paying for them at the going price, but BSkyB does offer a reduction in the subscription cost of a second smart card, as long as it's used by the same family and in the same household as the original full-paid up card and programme bouquet. All this hoo-hah generally discourages the use of more than, say, two Sky Digiboxes in one household, but the multi-output LNBs are useful for use with Sky Plus recorders, for Granny annexes and for small communities in flats.

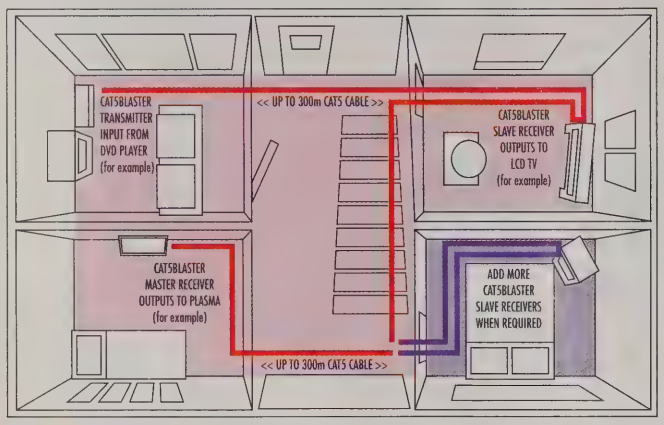
Some TV-programme sources like early Freeview adapters, IDTVs and DVD players do not have RF modulators, and are thus not amenable to position X in our diagram above for simple RF cable distribution. In these cases you can buy a standalone RF modulator or merely plug them into the Scart socket of your existing VCR or Sky box at point X, select AV in the former case, and thus get them on to your home network.

DOES YOUR AV SYSTEM

# NEED CAT5BLASTER

Long distance?
Component video?
Digital audio?
Many rooms?

The easy way to distribute video and audio over long distances and to multiple locations, Keene Electronics new modular CAT5BLASTER system uses clever electronics to send high resolution video and audio over low cost CAT5 network cable.




The CAT5BLASTER

- Uses low cost CAT5 cable (unshielded 4 twisted pair)
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- Can be configured for analogue stereo or digital audio
- Provides IR feedback to the transmitter from every receiver
- Can send stunning quality images up to 300 metres
- Consists of a Transmitter and Master receiver (for 1:1 distribution). Additional Slave receivers may be added as required for multi-room distribution.

*Use an RGB2C or SyncBlaster Black Box to convert set top box RGB to correct format for use with Cat5Blaster.

CAT5BLASTER: Transmitter module with power supply, Master receiver module, standard IR receiver, standard IR emitter wand [C5B] £259.99
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CAT5BLASTER master receiver power supply (for extending range to 300m+) [KT5] £5.99
CAT5 network cable [KBL23] 10m+ £0.47/m; 305m reel £80.00 (£0.27/m)

- What if I don't need multiple locations or three video channels?

Then we have the CAT5BLASTER QC for quick and easy 1:1 distribution via CAT5 cable of s- or composite video plus stereo audio.The CAT5BLASTER QC will accept and distribute one or two composite video channels, or one s-video channel, and L & R audio. Requires no power supply, provides a good output signal at distances up to 100m cable run from the input.

*CAT5BLASTER QC transmitter/receiver*

CAT5BLASTER QC: 2 x QC Transmitter/Receiver modules + 2 x phono/s-video adaptors [C5QC] £99.99

Order by phone 0870 990 9000 any time (24hr staffed sales line), by fax 01332 830551, by email sales@keene.co.uk or on-line at www.keene.co.uk. Prices do not include delivery: Standard delivery (Royal Mail 2nd Class post to any UK address) £2.50 per order. Faster options 1st Class post £4.50 per order, next working day delivery (UK mainland only, remote areas may take longer) £8.00 per order. Overseas deliveries by airmail charged at cost.

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# EXTRA CHANNELS

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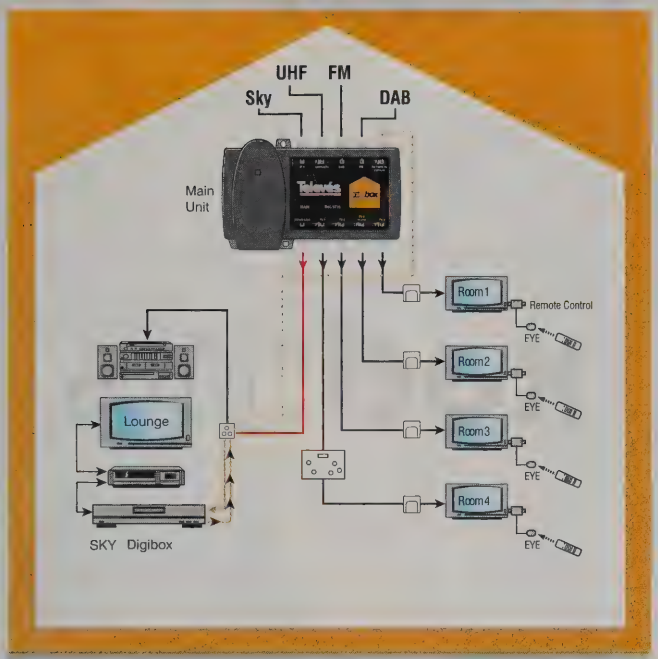

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# The X factor

THE HUMBLE DVD PLAYER IS OLD HAT. DEREK RADGE GETS TO GRIPS WITH FOUR DISC SPINNERS THAT ALSO OFFER HARD DISC RECORDING AND MUCH MORE BESIDES

*XxX* on Sky Cinema, picture courtesy of BSkyB

Anyone who's tried to keep pace with the developments in home entertainment technology over the past few years must by now have a living room that looks more like a Richer Sounds stock room.

Box after box competes for your attention, and offers tough decisions. First you got your DVD player, then you got your Digibox, then along came hard disc recording, then DVD recording. Pretty soon, any attempt to keep up results in an infuriating mess of boxes, some of which are obsolete, others of which won't necessarily work with all the others in your system, and in the meantime your bank balance has crashed like a drunk in a Ferrari.

'A hard disc recorder that incorporates a DVD player or recorder'

Even if you haven't necessarily tried to keep up, and have instead bided your time to see how the market works out, you're still presented with an array of possibilities, none of which seem to provide a complete solution.

Into this mess steps a brilliant idea – the digital combi. A hard disc recorder that incorporates a DVD player or recorder. Two boxes in one, two formats in one, and with all the required connections to work alongside your TV, Digibox, VCR and home cinema system. Inspired.

On the DVD side you get everything you associate with DVD-great picture quality, extra features, superior sound. On the hard disc front you get the convenience of tapeless recording and archiving and the bonus of time-slipping: pausing live TV, wandering in halfway through a programme, jumping back to its start and watching the whole thing through, and so on.

In this round-up we've taken a broad range of the combi recorders available and given them the once-over in terms of features, functions, recording capacity, compatibility and, most importantly, performance. Whether you need a modest unit for watching films and recording the football, or an all-bells-and-whistles model that offers all the necessary features to become the most vital part of your viewing setup, one of the following four models should suit you.

**TWO TO TANGO**

| | |
|---|---|
| JVC XV-DDV1SL | £500 |
| Panasonic DMR-E100H | £1000 |
| Thomson DTH7500 | £400 |
| Toshiba RD-SX30 | £700 |

# Thomson DTH7500

Thomson's DTH7500 is the second generation of Thomson 'digital media recorders', replacing the older DTH7000 while doubling its predecessor's storage capability to 80GB and halving the price. Not bad.

The DTH7500 is a one-box solution for DVD and CD playing as well as hard disc recording. The sleek black box looks more like studio equipment than your average shiny silver player, and as well as making it aesthetically pleasing, its designers have made sure it is positively crammed with sockets.

At the rear you'll find two RGB/S-video switchable Scarts, composite in and outputs, stereo in and outputs, optical and coaxial digital audio outputs and an aerial socket.

On the front are a couple more inputs for audio and composite feeds, and a USB socket that can be connected to card readers, camcorders and suchlike to allow for storage and playback of MP3s and JPEGs from the DTH7500's hard drive.

Installing and setting up the 7500 is a quick and painless procedure and you'll soon be discovering its capabilities. The buffer memory is default set to 45 minutes, but at a slight drop in quality this can be upped to 90, so straight away you'll be able to carry out all those HDD time-tweaking functions like pausing live TV and resuming playback at any time within the limits you've set on the memory. You can also watch permanent recordings while the programme is still being stored to the drive.

The 7500 can be connected to external receivers, although there is a time delay of a few seconds when using it with digital TV. It can, on the other hand, control selected Digiboxes, so the timer can be programmed to record digital broadcasts. There's only a single analogue tuner on board. However, including a digital one would doubtless have pushed up the price.

'Whatever recording mode you use, the colour and contrast performance is excellent'

The DVD player side of things is as straightforward as you'd expect a DVD player to be, and can be hacked into multi-region status by highlighting options in the menu, opening the disc tray and keying 8-2-1-3-9-OK on the remote.

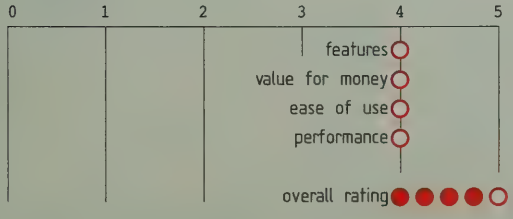
The 7500 has four recording quality settings that, along with the number of MP3s or JPEGs on the drive, affect how much recording time you have. The lowest picture quality will give you around 120 hours, although the images will be heavily affected, with little detail and a large number of digital artifacts appearing. In basic mode you'll get about 60 hours of VHS quality images, in normal mode there's about 40 hours of better than VHS quality available, and the high mode will give you 20 hours of beautifully sharp pictures of broadcast quality.

Whatever mode you use the colour and contrast performance is excellent. However, unlike some PVRs, you cannot archive recordings to tape by connecting the DTH7500 to a VCR.

The DVD player function is similarly impressive, playing back smooth, sharp pictures with excellent colour reproduction. The unit is capable of decoding Dolby Digital and DTS and the sound quality, although not up to the standards of some of the more high-end, high-price players, will not give you any cause for complaint.

All told, the DTH7500 does a good job with whatever tasks you give it, and it won't break the bank either.

Our only disappointment is that Thomson neglected to throw in a twin DTT tuner and deliver a product to trump the Pace Twin Digital TV Recorder.



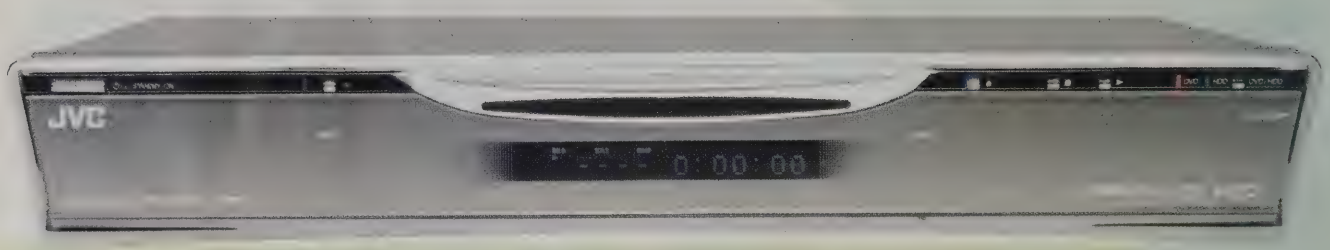
FEATURES: 80GB HD, Live TV pause, simultaneous recording and playback, Naviclick EPG, 2 x Scart sockets, USB port, MP3 jukebox

SUPPLIER: Thomson, Tel: 01732 520 920, www.thomson-europe.com

PRICE £400

⊕ Drive capacity, DVD playback, high quality mode

⊖ Clumsy remote control, poor pictures in lower quality modes




# JVC XV-DDV1SL

Like the DTH7500, JVC's DDV1 combines a DVD player with a hard disc recorder, allowing you to cut down on the number of boxes, cables and remotes strewn around your living room.

The DDV1 is a lovely looking machine, subdued silver with a frosted glass front panel that conceals various controls. Those controls that are placed in clear view are small and discreet enough not to spoil the lines of the DDV1. The unit also features a slot-loading DVD drive similar to those found on in-car CD players. It's an elegant touch, if you can overcome the nerves that slot-loading drives sometimes produce. If you've ever had one go wrong on you, then you'll always worry about them thereafter.

The DDV1 has a pretty comprehensive range of sockets, starting with two Scarts, one of which is a two-way and the other is RGB-capable, although only when playing out DVD signals. S-video and composite outputs are also available, as are optical and coaxial digital audio outputs. In an odd touch of future-proofing there's also a socket for AV Compu Link, even though the manual makes it clear that there is no current use for it.

The front of the DDV1 has a few more inputs in the form of S-video, composite and stereo audio.

The DDV1 has an 80GB drive installed that can be filled with recordings at several different quality settings, depending on your chosen balance between image quality and capacity. The SP mode will give you 20 hours, the LP gives you 28, EP provides 56, and the SEP gives you 80.

The DVD mode has all the standard playback options including slow motion, frame advance and 64x zoom. There's also a remote control that, although fiddly, is fairly simple to master.

The DDV1 is a doddle to set up and operate and provides all the functions you'd expect of a HDD recorder. Sixteen timer recordings can be programmed into the memory either manually or via Videoplus.

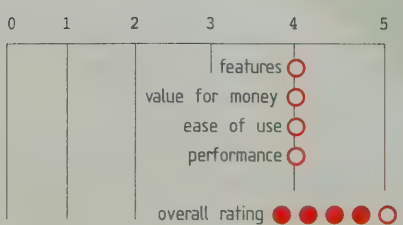
'The DDV1 is a doddle to set up and operate and provides all the functions you'd expect of a HDD recorder'

Recordings are organised on the hard drive and represented in the tidy navigation windows of the onscreen display, which shows a thumbnail from the recording along with programme details and technical info on the recording mode used. Within the navigation window you can alter the program thumbnail and details as well as doing some basic editing such as splitting and erasing.

When playing DVDs, especially in the RGB mode, you'll notice excellent colour reproduction and a high level of detail. On the downside the picture is a little fizzier than you'd expect of a DVD, but not so bad as to ever send you running back to VHS.

When playing back HDD recordings in the highest quality SP mode you'll get another reminder of why you ditched the old VHS. Picture quality in SP mode is as good as the original broadcast, with no loss of quality whatsoever. As you move down through the lesser quality settings the performance still remains surprisingly good. Each mode is a step down in quality, just not as big a step as you were expecting, with only the SEP showing up lots of pixellation and digital artefacts.

Sound quality is similarly impressive, with the DDV1 happily putting out the signals that will make the most of your speaker setup. About the only cause for complaint with the DDV1 is the lack of RGB output. In all other respects it is a lovely piece of kit that does exactly what you'd expect of it, as well as throwing in those handy editing functions.



Features: 80GB hard disc, four recording modes, 1-year, 16-programme timer, Videoplus, DVD playback, 2 x Scart, S-video output, composite video output, optical/coaxial digital audio outputs, stereo phonos, UHF loopthrough, S-video input, composite video input

Supplier: JVC, Tel: 0870 330 5002, www.jvc.co.uk

PRICE £500

⊕ Picture quality, editing functions

⊖ No RGB input

# Toshiba RD-SX30

Some bits of consumer electronics succeed by dint of timing, being the first, or one of the first, to offer a particular capability and riding the new product buzz. Other products succeed not by seizing the moment, but by being designed after a careful examination of the market and its competitors.

Toshiba's SX30 looks like it might well be one of the latter. Unlike many companies, Toshiba didn't leap into the DVD-Recorder market or the HDD recorder market at the starting whistle. What the SX30 lacks in spontaneity it makes up for in features.

As well as containing a 60GB hard disc drive for HDD recording it's also the only HDD/DVD combi in this test that can record as well as play DVDs. The SX30 is compatible with DVD-RAM and DVD-R, giving you two options for the eventual format of your recordings and allowing you to free up space on the HDD by archiving stuff across to DVD.

Decked out in silver with an uncluttered button layout, the SX30 is a good-looking machine that will sit happily in most living rooms.

Plenty of connections are provided. On the front you'll find composite video, S-video, and stereo audio inputs. At the back there are two Scarts, one for input and one for output. The input is not, unfortunately, RGB-capable, so you'll only be able to capture S-video and composite signals. Also on the rear are outputs for S-video, composite, stereo audio, optical and coaxial digital audio, and an aerial input.

The SX30 is easy to install and set up, thanks to an auto setup that not only works its way through everything but also provides you with onscreen graphics telling you what you need to do.

The menu system on the SX30 is simply laid out and easy to use. The content menu is probably the most vital of the lot, being the first port of call for managing both disc and drive recordings. Programmes stored on the drive are represented by customisable thumbnails and basic programme details. It is from here that you can dub recordings from drive to disc.

Drive recording on the SX30 can be carried out at three different quality settings – SP, LP and Auto, or if you're feeling more adventurous you can manually set the bitrate at any one of 38 increments between 1.4 and 9.2MB/s. You can also choose the quality level of audio recordings, from uncompressed PCM stereo to Dolby Digital at either 192 or 384KB/s.

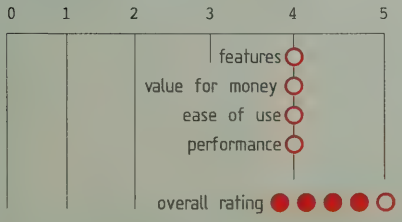
Recording times vary considerably, as you'd expect with so many potential quality permutations, but at the lowest possible settings you can expect about 78 hours on the hard drive or six hours on a standard 4.7GB DVD-R. At the very maximum settings for audio and video, you can expect to get about 13 hours on to the drive.

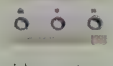
The SX30 also allows Timeslip functions, including chasing playback, simultaneous recording and playback and pausing live TV. You can also record one programme to the drive while watching a different programme from the drive.

When dubbing from drive to tape you can carry out 12x dubbing for increased speed, and there's a variable bitrate mode.

The lack of RGB capability is, again, a shame, as the S-video and composite options aren't quite as good. Having said that, both the SP and LP modes produce good quality pictures with robust colours and fine detail. Sound quality is similarly excellent, and the availability of PCM sound, though it will munch drive space, allows for excellent capture of programmes where good quality sound is vital, such as music shows and live concerts.

At a relatively small increase in price the SX30 offers features that stand out above those of the first two DVD/HDD combis in this test. It may be too serious a piece of equipment for the casual purchaser, but it's unlikely to let you down as long as you want serious kit and don't mind the lack of RGB input.



FEATURES: 60GB HDD, DVD-RAM and DVD-R recording; DVD/DVD-R/CD/CD-R/CD-RW/VCD playback, four recording modes, timeslip, 2 month timer, Videoplus, 2 x Scart, S-video out, composite video out, stereo audio out, optical/coaxial digital audio in/out, UHF loopthrough

SUPPLIER: Toshiba, Tel: 01276 62222, www.toshiba.co.uk

PRICE £700

⊕ Timeslip, manual bitrates, PCM audio.

⊖ No RGB input

# Panasonic DMR-E100H

Weighing in at £1,000 the DMR-E100 is the big boy of the round-up, both in price and lineage, it being the successor to the revolutionary HS2. At first glance, the E100 certainly looks like it has the right stuff to knock its predecessor into the shadows, with its 80GB HDD and a host of other interesting features.

Style-wise, it's a nicely designed machine, although its long feature list naturally results in a long list of controls and sockets and these do make the fascia of the E100 look a little cluttered.

On the front of the E100 you'll find slots for SD and PC cards, a drop-down panel that conceals S-video, composite, stereo audio and i.Link inputs, and all the controls for the timeslip functions.

The rear of the machine is similarly well-connected, although a coaxial digital audio output is conspicuously absent. On the plus side, however, there are two RGB-capable Scart sockets, and a full range of two way S-video, composite, and stereo audio sockets, as well as aerial in and out sockets and an optical digital output.

Setting up the E100 is easy, owing to automatic tuning, Q.Link for downloading existing settings from compatible TV sets, and Panasonic's own intuitive and easygoing menu style.

The E100 offers a range of quality settings for recording to the hard disc or DVD, including the maximum quality XP, which will give you about 17 hours on the disc or about an hour on a DVD-R. After that you have SP, which will give you 34 and two hours respectively, LP, which offers 68 or four hours, EP which provides 106 hours on the drive or six on a DVD. There's also a Flexible recording mode that adjusts the bitrate according to the available recording capacity.

The Direct Navigator menu displays details and thumbnails images for all the recorded content and allows you to carry out basic editing such as splitting, renaming and erasing programmes. There is also a playlist area where more complex edits can be created using in and out points to assemble scenes.

Dubbing content from drive to disc can be carried out at an impressive 24x if you're using DVD-R, although the actual dubbing speed does vary according to format, medium and quality setting.

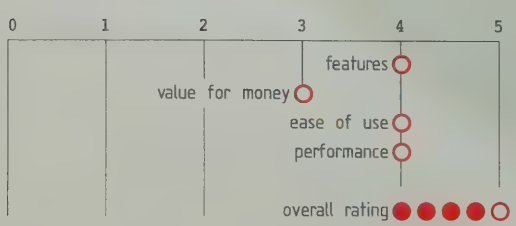
The card slots on the machine's front allow you to transfer JPEGs, TIFFs, and MPEG4 clips on to the drive or disc, and you can also convert programmes on the drive into MPEG4 for transfer back to card.

Recordings made in the XP mode, especially via RGB, are impeccable, with bags of detail and brilliant colour reproduction. Recordings in the SP mode are similarly impressive, although the first hints of pixellation do start to creep in on fast-moving visuals. It's not until you get down to the LP mode that any obvious picture disturbances become apparent, and even then they are minor enough not to warrant serious grumbling.

The E100 provides excellent audio quality, completely free of hiss or distortion, although as a CD or DVD-A player it's not quite as impressive as it is when handling soundtracks.

All told, the E100 is about the best digital recorder we've looked at. It does have one drawback, however. While its range of features is far in excess of most combi devices, so is its price, and it would be important for an prospective purchaser to sit down and think long and hard about whether all the features will be used before shelling out all that money.

'The E100 certainly looks like it has the right stuff to knock its predecessor into the shadows'



FEATURES: 80GB hard disc, DVD-RAM/DVD-R recording, Dolby Digital/DTS output, four recording modes, 32 event, one-month timer, Videoplus, 2 x Scart, composite video, component video, S-video

SUPPLIER: Panasonic, Tel: 08705 357357, www.panasonic.co.uk

Editor's CHOICE

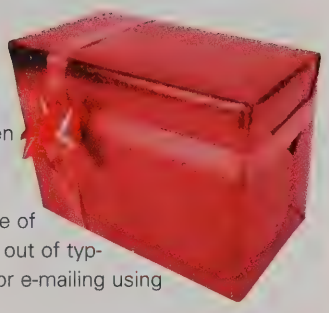
PRICE £1,000

⊕ Capacity, features, recording quality

⊖ A bit pricey

# Added value guaranteed

## GET MORE OUT OF YOUR TV VIEWING WITH OUR ROUND-UP OF THE LATEST USEFUL GADGETS AND ACCESSORIES



Christmas is coming and everyone has their own wishlist of things they'd like to find lying under the tree on December 25. Granted, only the most generous benefactor is likely to give you an Archos AV320 (unless they want it for themselves, of course) but that doesn't mean you can't put your Christmas money towards one after the hols. This versatile media player/recorder is something any self-respecting portable gadget freak would love.

Helping you to avoid AV accidents caused by excited small children getting entangled in your Scart cables is the GFI Secure Scart, which stays firmly attached to your TV or set-top box, no matter how much tugging occurs – accidental or otherwise.

For Sky Digibox owners, having the family round at Christmas is always a good excuse for game-playing, so, while the turkey is still settling, why not get in a couple of Gamepads and play a few of the interactive games on Sky Active? Alternatively, if you want to wish Happy Christmas to friends or relatives (and you're too drunk to tell them over the phone) then the Sky Navigator takes some of the hassle out of typing a text or e-mailing using Sky Active.

Once the festivities are over and the family photos are safely stored on your digital camera, TV Photo Album lets you share them (incriminating or otherwise) with the rest of the family by displaying them on your TV. After all, we all need a break from TV-watching once in a while.

# Archos AV320

TV on your PC is all well and good but what if you want to take it with you? That's where the Archos AV320 comes in.

The AV320 is a portable multimedia player capable of playing video, audio (MP3) and JPEG image files transferred from your PC.

This chunky yet-small silver box comes with a choice of either 20GB or 40GB hard disc sizes. Connections include two mini-jack outputs, one of which is used to supply analogue stereo and S/PDIF digital audio and the other stereo audio for headphone users, as well as outputting stereo audio and composite video to a TV via a special cable.

A USB port on the underside is used to connect the box to your PC (Firewire is an optional extra) and there's also a DC power input for those times when you're not on the move. Here you'll also find a mini-centronics port which can be used to connect some of the available add-on modules including a digital camera and FM tuner.

The AV320 comes bundled with one of these, the DVR100 video compressor which compresses video into VHS quality MPEG4 files and comes with composite video and S-video inputs and a remote control receiver. The controls are relatively easy to master, though the small joystick can be a little finnicky to use. There's also a remote control, which is handy if you're using the AV320 with a TV.

You can record from a variety of sources, including a TV, VCR, PVR, or DVD player.

The simple start-stop recording process includes variable bit rate and audio quality settings (up to 80 hours of video can be stored at lowest quality).

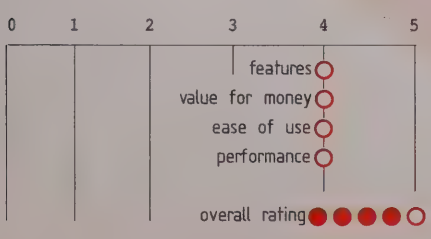
There's also a very basic four-event manual timer feature.

Picture quality on the LCD screen is good but (as you expect) shows evidence of mild artefacting when displaying clips recorded at low compression rates. Audio quality is comparable with CD and Musicmatch Jukebox software is included for managing and ripping music files.

The Archos may be a little on the expensive side compared with similar products from the likes of Panasonic, but if it's TV and music on the go you're after, it's still a formidable package.

PRICE £549

Features: 20GB HDD, USB PC link, 4-event, 1 month timer, DC power supply, headphones, remote control
Supplier: John Lewis Online, www.johnlewis.com, Archos, Tel: 01264 366022, www.archos.com



# GFI Secure Scart

Scart cables are a ubiquitous presence in any AV setup, and no satellite receiver or Freeview adapter seems to be without Scart connections these days.

While the tried-and-trusted Scart lead design has remained unchanged, the materials used in their construction have differed.

Indeed, hardcore AV enthusiasts have long sought to squeeze often marginal improvements in picture and sound quality from their equipment by investing in low-oxygen copper cables with gold-plating costing as much as £50 a metre.

Marginal though the benefits might be, there's something to be said for well-built Scart leads. As anyone who has ever tried using the often poorer quality leads that come bundled with setup boxes will have found, loose connector housing often makes it difficult to secure the lead within the connector.

The GFI Secure Scart offers a little something extra in terms of reassurance in this area by adding four lugs to the plug which connects to socket. This means that should somebody inadvertently tug on your lead, the connector will remain firmly in place.

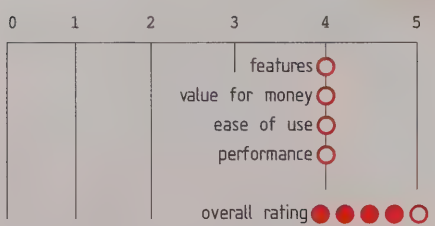
This simple idea works very well in practice; the plug stuck resolutely in place when we lifted our Digibox by the Scart cable. GFI claims that while it is connected the cable will hold a force of about 16Kg without moving.

In the unlikely event of a fire breaking out in your equipment, the casing is made from flame-retardant material, and the cable is fully screened to prevent interference.

Proving that the simplest ideas really are the best, the GFI Secure Scart may not be the 'gold' standard in Scart leads that high-end AV enthusiasts shout about, but it will still give peace of mind to anyone faced with a living room full of accident-prone children and a pile of expensive satellite receivers.

PRICE: £24 (for two) incl. p&p

Features: Sprung locking lugs, flame-retardant casing
Supplier: GFI, Tel: 01344 311327, www.gficables.com



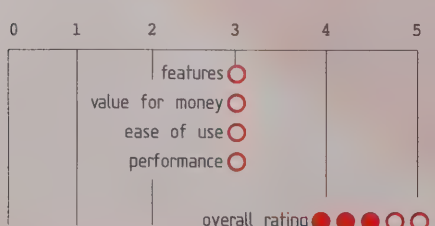

# Sky Gamepad

While the jury's still out with hardcore gamers over whether playing games on your Digibox is more fun than on a (more powerful) games console, the games channels on Sky Active continue to be a big draw for a diverse range of people.

The Gamepad is a Sky-branded joypad designed to up the fun factor even further by circumventing the often annoying shortcomings of playing games using the standard Digibox remote control.

PRICE: £19.99/£29.99 (double pack)

Features: Remote sensor, multiplayer support
Supplier: Sky Buy, www.sky.com
Tel: 0879 555 111




Created by the same people who designed the latter, Gamepad is not dissimilar to the average console controller, while still being clad in the familiar grip-friendly rubber.

Unlike most console controllers, however, there are no leads connecting the Gamepad to the box.

Instead, the battery-operated pad communicates your moves to an infrared sensor which plugs into the serial port at the back of your Digibox. This is powered by a flying lead from the second UHF output that carries a 9V power supply for an additional TVlink remote control relay alongside second TV sets. The Digibox can have up to four TVlinks connected to the second UHF output but only one alongside the Gamepad sensor. This enables up to four Gamepads to be used per box, allowing for four-way multiplayer gaming.

The controller has an eight-way direction pad and four coloured operating buttons (labelled A to D) on the top alongside Help, Back Up and Select buttons. Underneath

these are two trigger buttons in easy reach of your trigger fingers.

The buttons proved very responsive overall; when guiding Lara Croft around the latest chapter of Tomb Raider: Apocalypse even if it doesn't feel as immediate as a Playstation2 controller.

Not all games on Sky games channels currently support the Gamepad and the real gameplay benefit will probably be felt with two or more Gamepad-equipped individuals enjoying a multiplayer game around the Digibox. Rather like playing on a games console, in fact. Which is where we came in.

# Sky Navigator

At a time when texting using your mobile phone seems to be replacing good old-fashioned voice communication for most people, putting out the Sky Navigator seems a shrewd move on Sky's part.

Designed with Sky Active users in mind, the Navigator is a Sky Plus remote control which flips open to reveal a miniature keyboard purpose-built for using Sky's texting and e-mailing services.

Replacing the cumbersome infrared Sky keypad of old, the remote portion of the Navigator is identical to the Sky Plus remote control and can also be used to control a Sky Digibox.

Chunky hinges on the right-hand side, sit rather awkwardly in the hand and alert you to the presence of the keypad inside where, as well as the conventional QWERTY button arrangement, you'll also find repeated versions of some of the major remote buttons – including the central directional pad and a volume button.

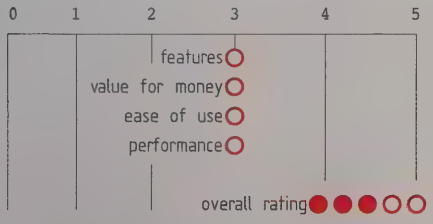
The small rubberised keys take some getting used to, especially for those used to typing full-sized computer keyboards but are responsive enough, while an additional sensor on the right-hand side of the remote ensures your efforts are effectively communicated to your Digibox.

The Navigator is rather expensive for what it is which, ironically, may dissuade the very people Sky is hoping to attract to its lucrative Sky Active services.

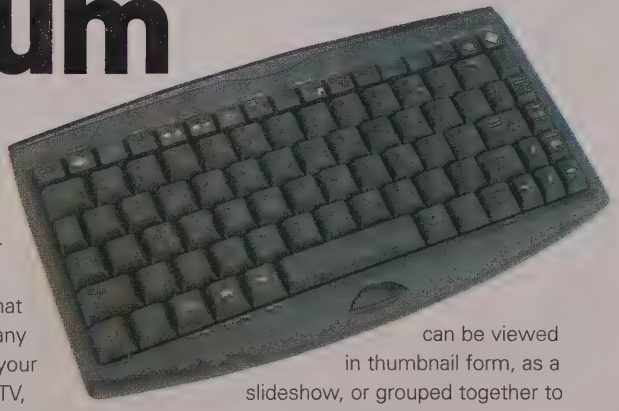
However, those who regularly text or e-mail using Sky Active will still appreciate the flexibility a dedicated keyboard (however small it may be) offers over the inflexibility of 'typing' using the conventional Digibox remote.

PRICE £24. 99

Features: Sky Digibox remote control, QWERTY keyboard
Supplier: Sky, Tel: 0870 555 111, www.sky.com




# TV Photo Album



Digital cameras may leave film standing in many areas, but one of the drawbacks of the medium can be sharing your efforts with other people.

Crowding around a viewfinder or a computer monitor can be awkward, especially if you have friends and family round and want to show off your holiday snaps.

If you're the owner of a digital camera that perhaps cannot be connected directly to a TV, this leaves you with two remaining options. You can either print them them out ona computer or you can use something like TV Photo Album, a simple device that lets you view digital photos (or any image in JPEG form) stored on your camera's memory card on your TV, then manipulate them afterwards.

TV Photo Album is a small, adapter-powered black main unit that sits on top of the TV and a battery-operated laptop-style infrared keyboard. The unit has two front-mounted card slots into which you slot the memory card containing the photos you want to view (CompactFlash, SmartMedia and IBM Microdrive cards are all supported).

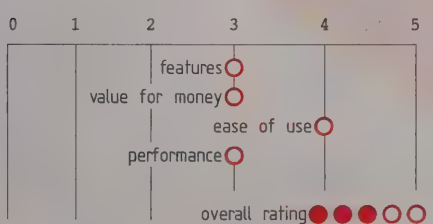
The main unit connects to a composite video input on your TV and features a USB port which allows you to connect the unit to a PC and transfer files to and from your memory card. Operation is straightforward using the clearly labelled keyboard and attractive onscreen menu system. Pictures can be viewed in thumbnail form, as a slideshow, or grouped together to create photo albums which can then be saved back to the memory card.

More creative users, however, will want to play with the many picture customisation options. These are mapped to specific keys on the keyboard and images can be cropped, rotated, given a caption or speech bubble, and displayed in a variety of different shapes. You can also create picture collages by arranging several images on one page, and there are a number of somewhat cheesy background images and colours to choose from.

TV Photo Album isn't cheap for what's on offer, but it's still a fun way to share your digital photos with others.

PRICE £99. 99

FEATURES: Composite video output, USB port, infrared keyboard, CompactFlash/SmartMedia/IBM Microdrive compatibility
SUPPLIER: Intro 2020 Limited, Priors Way, Maidenhead, Berks SL6 2HR.
Tel: 01628 674 411



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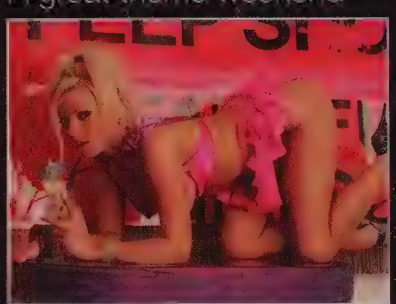

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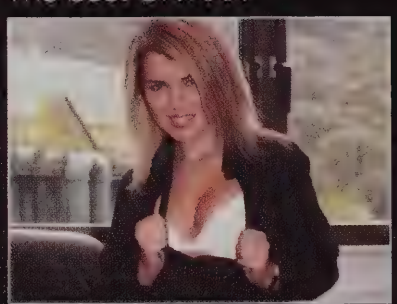

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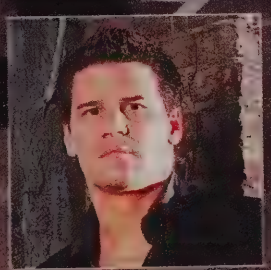
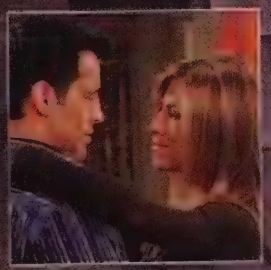
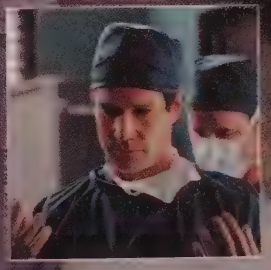
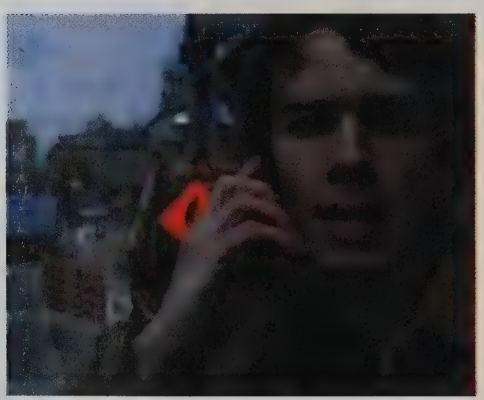
# WINTER PREVIEW

YOUR GUIDE TO
THE SEASON'S BEST ENTERTAINMENT

## Ice Ice Baby

Remember a few years back when a frozen body was found in the Alps? It turned out to be the remains of a caveman who has seemingly got lost. New evidence suggests that the man, nicknamed Oetzi, may have been murdered. *Ice Man: Hunt For A Killer*, on Discovery this December, recreates the events that may have lead up to his death. Investigators use modern forensic techniques to piece together the final hours of Oetzi's life.



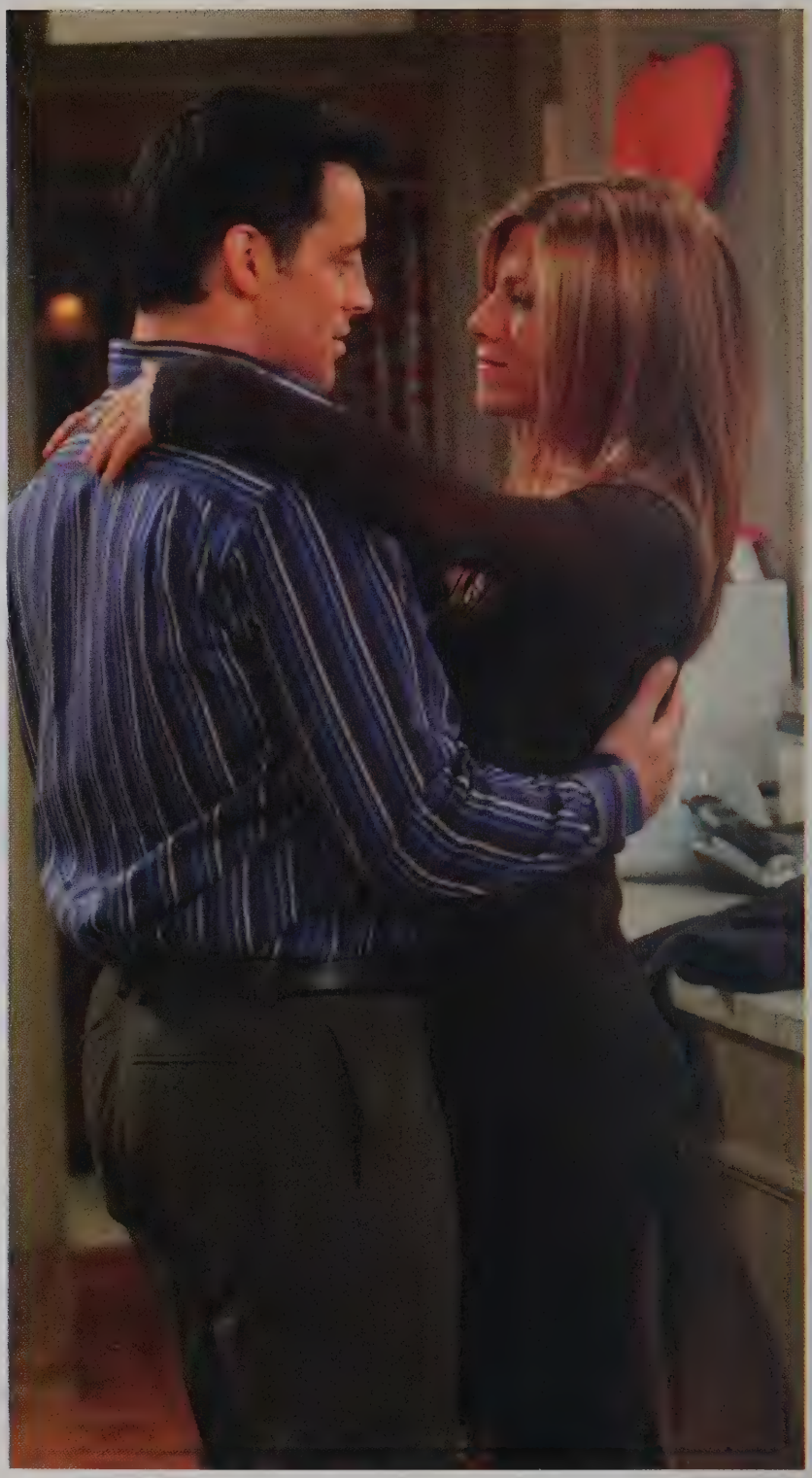
## Super geek

In *Jake 2.0*, (Sky One in the New Year) computer geek Jake Foley (Christopher Gorham) works for the secret services (National Security Agency) as a technician – but he dreams of becoming an agent. An accident in a lab researching nano-technology leaves him with super-senses and the ability to interface with computers.

It's a modern-day *Six Million Dollar Man*, with a sprinkling of *Alias, Spider-Man* and *Smallville* for good measure.

Co-starring Marina Black and Keegan Connor Tracey as the two women in Jake's life.

**Sky One, early 2004**



## Love at last

In *Friends* Joey and Rachel are together now – but will it last? Be prepared for a bit of a Ross/Rachel/Joey love triangle. Monica and Chandler's hopes for a baby seemed dashed – but there may be some unexpected good news for them too.

This is the last series of *Friends* (no, really, this time they are serious) but Matt Le Blanc has reportedly signed up for a Joey spin-off.

**E4, January**

# Skin game

Due to start on Sky One in January, *Skin* is pitched as a Romeo and Juliet-style love story, set in the worlds of porn and politics.

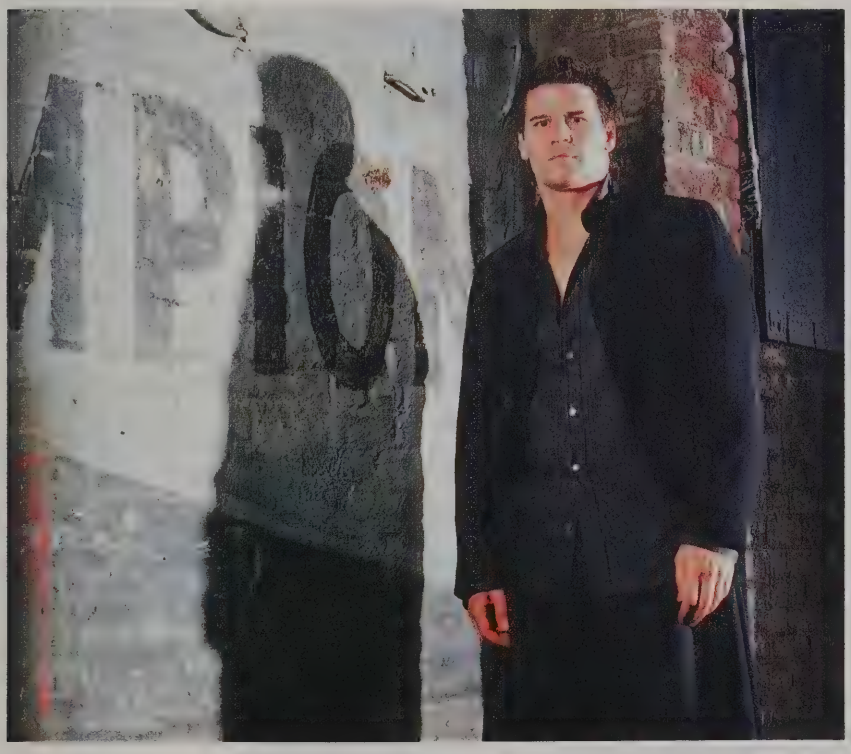
Seventeen-year-old Jewel (Olivia Wilde) is the daughter of adult entertainment producer Larry Goldman (Ron Silver). She is in love with Adam (DJ Cotrona), son of the district attorney, Thomas Roam (Kevin Anderson) a man who has pledged to stamp out porn – Goldman's business in particular.

If that wasn't enough, Jewel is Jewish and Adam is Catholic and hispanic.

Full of issues, this one.

It was in danger of cancellation at the time of publication, so there may not be that many episodes to enjoy.

**Sky One, January**



# There must be an Angel

At the end of *Buffy*, Spike (James Marsters) sacrificed himself to save the world.

So he's not coming back is he? Hmmm.

The new series of *Angel* starts on Sky One in January – Angel (David Boreanaz), Wesley, Gunn, Lorne and Fred have taken over Wolfram and Hart. Cordelia is still in a coma. Connor has a new life.

If you've never seen *Angel* before, this is a good place to start – the whole premise has been turned on its head. Harmony has also returned. Expect many other ex-*Buffy* characters to make appearances as the series progresses.

**Sky One, January**

# Small town boy

At the end of the second series of *Smallville* it seemed that Lex was heading for certain death and Clark was heading to Metropolis to be a bad boy. The third series opens three months later with Clark wearing a red kryptonite ring, robbing banks and driving fast cars. Martha and Jonathan are worried, and Chloe is in bed with Lionel (metaphorically, at least). Meanwhile, Lex may not be as dead as everyone thought.

Michael Rosenbaum has evidently been working out during the summer hiatus (expect many scenes of Lex stripped to the waist), Tom Welling has grown his hair, and Allison Mack (Chloe) has had hers cut. Meanwhile, Kristin Kreuk is as perky as ever.

The first episode sees guest appearances from Rutger Hauer as Lionel Luthor's rival Morgan Edge, and the voice of Terence Stamp as Clark's real father, Jor-El.

**E4, January/early February**

## Orange County blues

*The OC* is a very acceptable substitute for those missing *Dawson's Creek*. It revolves around Ryan Attwood (Benjamin Mackenzie), a troubled teenager who has to try to adapt to life in a privileged community. 'OC' stands for Orange County – a very swish part of Los Angeles, by all accounts. Ryan soon makes friends with rich boy Seth (Adam Brody) and develops a crush on girl-next-door Marissa (Mischa Barton).

The series also star Peter Gallagher as a public defender, and Seth's father, Sandy Cohen.

**E4, January/early February**

## Hard to scare

In *Fearless*, Rachael Leigh-Cook has no sense of fear. You would think this lack would make it impossible to live any sort of life (eg 'don't go in the cave – there are big bears with sharp teeth and claws'. 'Ach – I'm not scared...' (sounds of Rachael being torn to pieces), but the FBI has recruited the fearless youngster.

*Handsome Young Americans* star (and Tom Welling lookalike) Ian Somerhalder plays Rachael's love interest/sidekick.

**Sky One, January/February**

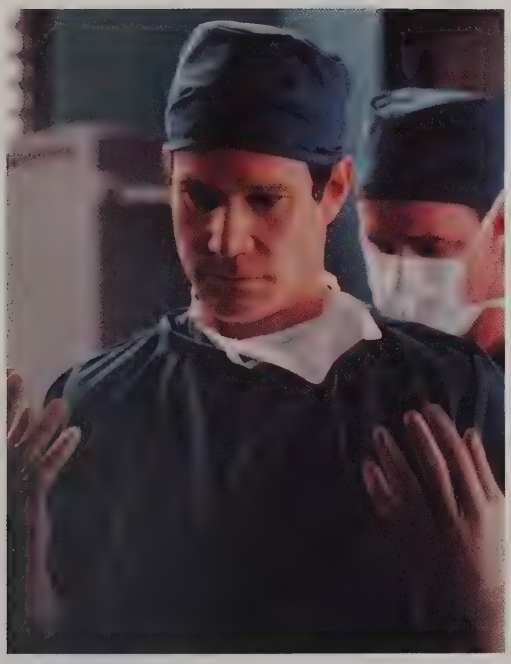
## Freak out

*Carnivale* is set in the fertile world of a 1930s travelling circus. An 18-year-old fugitive (Nick Stahl) joins the travelling show and soon discovers his long-buried supernatural abilities.

A cross-between *The Grapes Of Wrath*, *The Shining* and Tod Browning's 1932 classic, *Freaks*, this promises to explore the battle between good and evil.

Clea Duvall, Adrienne Barbeau and Michael J Anderson co-star.

Look out for it in the schedules.



## Uplifting entertainment

*Nip/Tuck* (starting on Sky One in 2004) is a dark drama focusing on two plastic surgeons and their complicated lives. Julian McMahon plays Dr Christian Troy, who co-owns a Miami practice with best friend, Sean McNamara (Dylan Walsh). Christian is happy with his glitzy lifestyle and all the beautiful women he meets, but Sean feels the work has distanced him from his wife and children. Joely Richardson so-stars as Sean's vain wife. The series promises lots of steamy sex scenes and other adult themes.

## Going (ever more boldly)

In *Star Trek: Enterprise* T'Pol (Jolene Blalock) has a slightly new look and it seems there's supposed to be some sort of sexual tension between her and Trip (Connor Trinneer).

Eagle-eyed readers will notice that the title has changed from plain old *Enterprise* to the franchise-oriented *Star Trek: Enterprise*. Does this mean more spin-offs are likely?

The theme tune has also been remixed – but not noticeably, unfortunately. It's still the same song, sung by Russell Watson.

**Sky One, January**

## Wild man in the city

*Tarzan* starts on Sky One some time in the new year (all being well). Underwear model Travis Fimmel is the eponymous hero. It's set in modern-day New York, so the apeman has to learn to cope with all the wonders of the big city. The series was originally set to be called *Tarzan And Jane* – but well-endowed model Travis is the main focus now. Sarah Wayne Callies plays Jane – still Tarzan's love interest, but not so much at the centre of the story now.

Also features ex-*Xena* star Lucy Lawless as Tarzan's aunt and *The X-Files*' Mitch Pileggi plays his uncle (and Lucy's ex-husband).

**Sky One, January**

# Buyer's Guide

WHETHER YOU'RE NEW TO DIGITAL TV OR JUST LOOKING TO UPGRADE YOUR EXISTING SYSTEM, OVER THE NEXT 14 PAGES SATELLITE & DIGITAL CHOICE GIVES YOU THE LOWDOWN ON THE EQUIPMENT AVAILABLE

**Receivers with a CI slot can be upgraded for foreign pay-TV**

## Buying satellite

### WHICH SORT OF RECEIVER SHOULD I GET?

Ultimately, this depends on what channels you're after and how much you have to spend. A cheap free-to-air digital receiver like the Technomate TM5000D can be bought for less than £100. A more advanced motorised system like the Strong SRT4375 can be picked up for as little as £400 and is also capable of receiving the rapidly dwindling number of analogue satellite channels such as the German channels on Astra 1. Although outdated, analogue-only receivers can still be found at bargain secondhand prices (usually at car boot sales).

If you just want to receive digital channels from either Hot Bird and the Astra cluster of satellites then a Sky Digibox may suffice, although it does have significant limitations when it comes to receiving channels from other satellites, especially when used in conjunction with the standard 45cm Sky mini-dish (a 60cm dish is preferable). For a start, they cannot be used to receive pay-TV services other than Sky Digital, nor can any receiver other than a Digibox be used to receive Sky, which has its own method of encryption, Videoguard.

If you want foreign pay-TV get a digital satellite receiver with some form of upgradeability such as a CI slot for adding a pay TV module (CAM) and viewing card. CAMs (or Conditional Access Module) are required to unscramble encrypted channels (there are several methods of encryption in use including Viaccess and Irdeto) and are often already built into a receiver. Viewing cards for foreign channels are frequently bundled with CAMs and imported by dealers and bought on a yearly subscription basis.

**A CAM and viewing card**

If you want to receive channels from several satellites consider getting either a dish fitted with more than one LNB or a motorised multi-satellite system.

There are two options for motorised users; a traditional (and cable-heavy) motorised dish system requires a motorised receiver incorporating a built-in positioner for turning the dish.

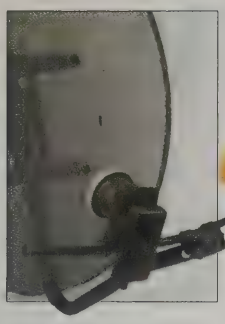
The cheaper path to motorisation is to have is a dish fitted with a DiSEqC 1.2 motorised smart mount (costing around £100) working in conjunction with a digital receiver that features DiSEqC 1.2 dish turning software.

For more on the different types of receivers available see *Get Into Digital* on pages 4 and 5.

### WHAT DISH DO I NEED?

If it's free to air channels from Astra 1 or Hot Bird you're after then a typical 'beginner's' setup of a 60cm (80cm if you live in the north of England, the South-West, Scotland and Ireland) fixed dish is sufficient, coupled with a single universal LNB.

However, it's worth considering a multiple feed brack-



Using more than one LNB on your dish will get you more channels

et, which has usually two LNBs but sometimes three or four. These add-ons cost from just £30 and give access to hundreds more free channels.

### WHAT ABOUT INSTALLATION?

Unless you're already an experienced satellite enthusiast, we would strongly advise you to consult a satellite dealer in the first instance. He'll be able to give you advice on the type of system that's right for you, help with installation and provide after-sales service. He could also even help you with a money-saving 'package' deal if it's foreign pay-TV you're after. Typically, installation costs £40-£80 for a fixed dish taking about half-an-hour to install, but a motorised antenna installation needs a lot of equipment and can take two fitters an entire day and is liable to cost upwards of £150.

More than 1.5million homes in the UK now have a Freeview-ready box

# Buying digital terrestrial

### WHAT EQUIPMENT DO I NEED?

Freeview, a non-subscription package of more than 40 TV and radio digital terrestrial channels (see page 99 for details) is freely available to anyone (localised signal circumstances permitting) with a TV aerial and one of the following products.

A basic Freeview set-top box (often referred to as an 'adapter' or 'converter') costs as little as £60 and will happily convert digital TV signals into analogue for viewing on your TV.

Alternatively, you can buy an integrated digital television, or IDTV (essentially a TV with the equivalent of a Freeview adapter built in) which will let you watch Freeview channels while saving you the trouble of buying an extra box. These cost upwards of £400.

### ANY FEATURES TO LOOK OUT FOR?

There are a number of key features to look for when buying a Freeview adapter, many of which also apply to IDTVs.

If you want to take advantage of digital text and other 'red-button' interactive services, then make sure the box you buy comes with the necessary MHEG-5 interactive software required to view these services.

Connections are also very important. A box with two Scarts connectors makes it easier to create higher quality recordings on a VCR, and the presence of a UHF loopthrough means you can watch analogue channels while you're recording Freeview channels and vice versa.

If you want to listen to stereo sound (especially from radio stations) and are perhaps using a mono television such as a portable, then it's also worth buying an adapter with audio outputs for connecting up your own speakers.

### CAN I GET A SIGNAL IN MY AREA?

It's estimated that around three-quarters of the UK are able to receive digital terrestrial signals.

Often the position and general state of your aerial can have a significant effect on your chances of getting a good signal. A general rule of thumb is that your aerial should have a clear line of sight (no obstructions such as tall buildings) to your local transmitter and should preferably be roof-mounted rather than stored in the loft.

Your aerial should also be fairly new and in good condition (a high-gain aerial is recommended in weak signal areas). Indoor aerials including those fitted to portable TVs are not suitable for Freeview reception.

Before you rush out and buy an adapter there are a number of ways you can check the quality of DTT reception in your area. If someone you know already has a Freeview adapter ask (nicely) if you can borrow it for testing.

In addition The Digital Television Group has a fairly accurate postcode predictor on its website (http://www.dtg.org.uk/) which will give you an indication of your likely reception situation. Alternatively, see http://www.freeview.co.uk. In some instances the shop assistant may be able to check your postcode situation for you. You can also phone the ITC technical helpline for advice on 01962 848647.

**'A basic Freeview set-top box costs as little as £60 and will happily convert digital TV signals into analogue for viewing on your TV'**

# System breakdown

DON'T KNOW YOUR LNB FROM YOUR UHF? SATELLITE & DIGITAL CHOICE PRESENTS A GUIDE TO THE BASICS OF SATELLITE AND DIGITAL TERRESTRIAL SYSTEMS

## Satellite

### HOW IT WORKS

A lot of high-tech terminology surrounds the use of satellite equipment (all of which is explained in our *Jargon Buster* on page 87). However, the basics of satellite reception are actually quite straightforward to understand.

If you live on the edge of an area covered by a satellite's signal – known as the footprint – you'll need a larger dish than if you were at the centre of the beam. The larger your dish, the stronger the signal will be, and the better the quality of pictures and sound received. This is particularly important with digital signals, where a weak signal means the receiver will not have enough information to produce a picture. When it is pointed at a satellite the dish collects the weak signals and concentrates them on its focus point, where the LNB is positioned.

The LNB converts the signal to an intermediate frequency (IF) for transmission down the cable to the receiver.

Older analogue receivers amplify the IF signal which is then processed into pictures and sound through a combined tuning and frequency-changing operation. A digital receiver decodes the stream of binary data into pictures, sound and any data carried with it. If a channel is encrypted it is diverted through the receiver's decoder before being passed to your TV or VCR or, for better quality, a Scart lead.

**1. CARD SLOT** - Pay-TV channels require a viewing card to unscramble the signal. Some receivers are designed to work with one encryption format; others have a Common Interface slot which accepts Conditional Access Modules for many different formats. Slots are usually concealed behind a pull down flap at the front of the receiver

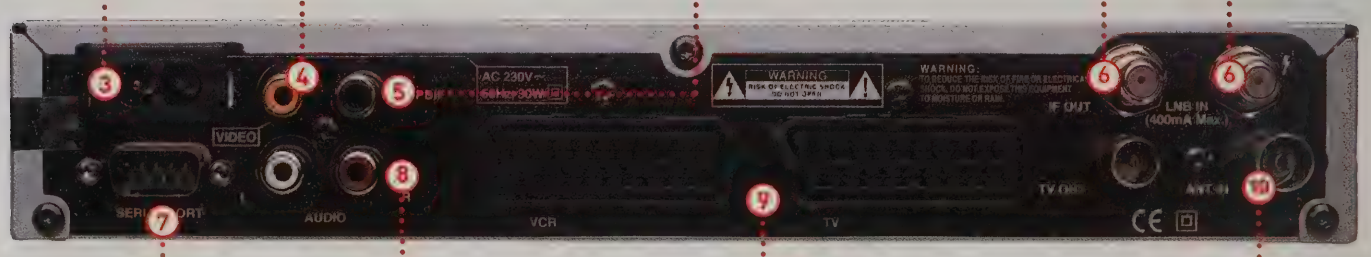
**2. BUTTON CONTROLS** - Basic function buttons which let you change channels and place the receiver on standby power. Particularly handy if you lose the remote control! They also let you set up features such as the parental lock and event timer - depending on the specification of the receiver

**3. POWER INPUT** - Insert power cable here

**4. COMPOSITE VIDEO OUTPUT** - Provides a composite video (CVBS) signal to a TV or VCR through a standard phono cable, which is superior to the UHF signal but poorer than the RGB signal through a Scart.

**5. DIGITAL AUDIO OUTPUT** - Either optical or coaxial, these give you noise free sound and are superior to basic phono inputs. Some receivers support Dolby Digital audio where broadcast.

**6. LNB LOOPTHROUGH** - The digital receiver splits the IF signal from the dish and passes it uninterrupted through to an analogue receiver or a Sky Digibox, which can control the LNB when the main receiver is in standby




**7. RS232 SERIAL PORT** – Allows the receiver to be linked with a PC to update its software with data downloaded from a bulletin board or the internet.

**8. STEREO PHONO OUTPUTS** - Analogue outputs pass stereo signals to to a hi-fi or speaker system

**9. SCART SOCKETS** – Used to link the receiver to a TV or VCR or decoder. Delivers superior pictures to a UHF or composite output.

**10. UHF LOOPTHROUGH** - a terrestrial aerial input and a modulator output which allow you to tune your TV to the satellite signal like any TV broadcast. To receive terrestrial channels (analogue only) connect the cables from your aerial to the antenna socket. The TV and VCR must then be connected via co-ax cables

# Digital terrestrial

## HOW IT WORKS

As with satellite broadcasts, digital terrestrial signals are encoded as a datastream made up of zeros and ones. These signals are transmitted via 'multiplexes' capable of carrying several channels at once in a single frequency (rather than just one channel, as with analogue transmissions). These signals are then distributed by TV transmitters across most of the UK.

The signal is picked up by your TV aerial and sent to your Freeview adapter, which converts the signal into analogue for displaying on your TV.

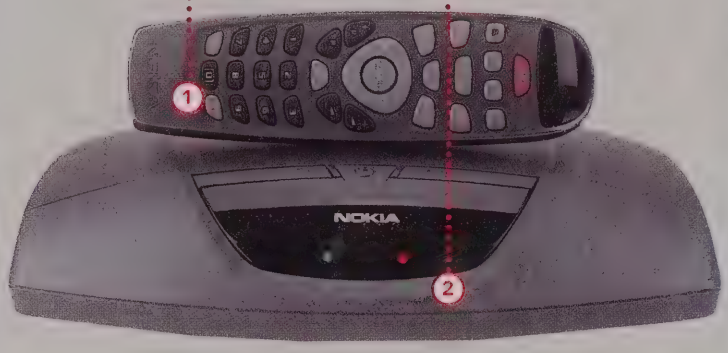
**11. DISH** – Points at satellites in the sky and picks up signals. A fixed 45cm dish is required for Sky Digital in the South or a 60cm dish in the extreme north of the country. A 60cm dish is needed for receiving the Astra 1 satellite in southern Britain (80cm for the North). A larger dish is required for watching other satellites; 70cm for 13°E for example. On motorised systems the dish moves satellite positions.

**12. LNB** – A low-noise block downconverter converts the received satellite signals into lower frequency electrical signals which are then sent down a cable to the receiver. Universal LNBs which pick up both high and low frequency bands are now standard, but older Sky analogue systems were fitted with narrow-band LNBs, so beware of secondhand equipment.

**13. REMOTE CONTROL** – Similar to a TV remote, but lets you control all the satellite receiver's functions.

**1. REMOTE CONTROL** - Like a satellite receiver, lets you control all of the adapter's functions

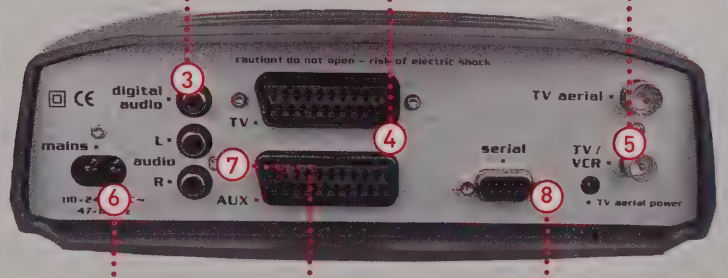
**2. CA SLOT** - Some adapters conceal a Conditional Access Slot for use with future pay-TV services (should they appear)




**3. DIGITAL AUDIO OUTPUT** - Either optical or coaxial, gives better audio performance when connected to a hi-fi or speaker system

**4. SCART SOCKETS** - Connect the box to a TV or VCR.

**5. UHF LOOPTHROUGH** - Lets you watch analogue channels while recording Freeview channels and vice versa




**6. POWER INPUT** - Some adapters have a 12V power supply, meaning they can be used in caravans, etc

**7. STEREO PHONO OUTPUTS** - Connect these to a speaker system for stereo sound

**8. SERIAL PORT** - Usually for engineer use. Most software updates are broadcast over the air

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Horizontal, S/R: 27500
FEC:3/4
On Viaccess & Irdeto

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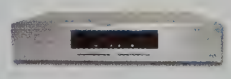

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# THE KIT LIST

WHATEVER YOUR DIGITAL TV NEEDS, SATELLITE & DIGITAL CHOICE HAS PICKED ITS TOP FIVE PIECES OF KIT IN EACH CATEGORY TO HELP YOU MAKE THE RIGHT DECISION

## QUICK GUIDE

- Sky Digiboxes - the only receivers capable of receiving Sky's subscription channels
- Free to air digital – capable of receiving unscrambled free TV signals from a variety of satellites
- Common Interface digital – a receiver with one or more CI slots capable of receiving scrambled subscription channels when combined with a conditional access module and viewing card
- Conditional access – has one or more formats of scrambling technology built in, so only a viewing card is required to pick up compatible channels
- Dual format – can receive both analogue and digital satellite TV, and may also have a common interface or built-in conditional access
- Digital/Analogue Motorised Receivers – receivers which can pick up digital (and occasionally analogue) signals and can also be used as part of an actuator-driven motorised system
- PC cards – can receive both analogue and digital satellite or digital terrestrial signals. Some can receiver satellite data only (i.e. the internet
- Freeview adapters – set top box for receiving digital terrestrial channels via your TV aerial
- IDTVs – an integrated digital television capable of receiving both analogue and digital terrestrial (i.e. Freeview) channels and, in some cases, Sky Digital

# SATELLITE

## SKY DIGIBOXES

(NOTE: the prices given here represent the nominal value of a Digibox as quoted by Sky. Market prices are likely to be higher. Satellite & Digital Choice is unable to give a recommended retail price as manufacturers are forbidden by law to set a price) ALSO: Pace Minibox £99

### Sky Plus £199 (+ £10 monthly)

Once you have a Sky Plus, you'll wonder how you managed without it. It is essentially an advanced Sky Digibox featuring an integrated personal video recorder (PVR) and a 40GB hard disc. It has two digital tuners which means you're able to watch one channel while recording another or, thanks to a recent software update, two channels at once. The remote is a swish silver evolution of the standard Digibox model and comes with six extra buttons for controlling the PVR: play, pause, fast-forward, rewind, record, and stop.
Like all PVRs, Sky Plus allows you to fast-forward, rewind, pause and instantly access recordings which are recorded in broadcast quality on the hard disc (there are no variable quality settings). There's also a Pause Live TV function where pressing pause initiates recording to the hard disc. Unpausing means you can carry on watching from where you left off (known as timeshifting), so you never miss a thing. Recordings can be scheduled via the seven-day EPG, and a Series Link function means you can set the receiver to automatically record each episode of your favourite series (if the broadcaster supports this feature). If you run out of hard disc space, you can also archive recordings to video tape.
Ownership of Sky Plus requires the installation of a Sky Plus dish fitted with a quad LNB (the two 'spare' feeds can be used in conjunction with two other Digiboxes). There's also a £10 user charge (on top of your Sky subscription) for those not subscribing to one or more Sky Premium channels.
Sky is constantly updating Sky Plus with new features. Future plans include the ability to remotely programme the receiver using a mobile phone or the internet and adding a TiVo-style programme search function to the EPG. ●●●●●

### Amstrad DRX400 £169

While we await the arrival of the Amstrad version of Sky Plus next year, here's the DRX400. It looks good, with its smart silvery fascia, though don't go looking for an optical digital audio output on the rear; only the now-discontinued Sony boxes had those. Performance-wise, loading times are comparable with the best that Panasonic has to offer, although noticeably slower when it comes to loading Sky Active and the EPG than the Pace models, including Sky Plus. Still, an excellent Digibox. ●●●●○

### Pace BSkyB2600 £169

This revision of Pace's Digibox has had a makeover, replacing the black and silver of old with a slightly dated-looking white platinum casing. The use of smaller VLSI chips also means the box has seen a decrease in size, although the back panel conforms to the standard spec. It's faster than its closest rival (Panasonic's TU-DSB40) in almost every respect; the EPG Sky Active applications load particularly fast. If you're happy with its looks, it's a very good buy. ●●●●○

### Panasonic TU-DSB40 £169

The latest incarnation of the tried and trusted Panasonic Digibox lineage bears few surprises in terms of its specificatiion and (unchanged) looks but, nonetheless, continues the manufacturer's high standards when it comes to making Sky boxes. Most welcome is the use of a full-sized tuner module as opposed to a cheaper Ziff one – good news for those in fringe areas. Socketry is standard for a Digibox and loading times are pleasingly fast, whether you're changing channels, scrolling through the EPG or loading interactive applications. There's no doubt about it – Panasonic is still the king of Digiboxes. ●●●●●

### Thomson DSI4101 £169

Thomson takes over where Grundig left off (it now owns the Grundig factory, where its Digiboxes were made) but the DSI4101 is no mere-rebadging of an old product.
Looks-wise, it's a little too much on the blocky side and not unlike the old Pace models. Connections are standard for a Digibox and performance is up there with the Panasonics of this world.
Field reports suggest that this particular box works in fringe areas, so it may be useful to those on the outskirts of the Astra 2D footprint (home to the BBC's digital channels). ●●●●○

# FREE-TO-AIR

(ALSO: Humax F1-Fox £174, ID Digital F20E £139, Manhattan Skyline 1000 £169, Fortec StarDVB-786v2 £130, Televes RSD7235 £165, Triax 260S £129)

## Technomate TM-5500D £99

Technomate's ever-growing range of receivers are mainly distinguished by two things: they offer something for everyone, and they're incredibly cheap. The TM-5500D is a replacement for the well-received TM-5000D, a free-to-air receiver that also came in at a wallet-sparing £99.

Apart from a cosmetic upgrade, enhancements for this new version include faster channel searching and scanning, extra flash memory for channel storage plus a low-threshold tuner and a revamped remote control.

DiSEqC 1.2 dish moving software comes pre-loaded and the receiver and there's also USALS support for auto locating satellites using a USALS-compatible motor. Satellite searching is quick and the symbol rate range of 1000-4500 should be sufficient for tuning everything.

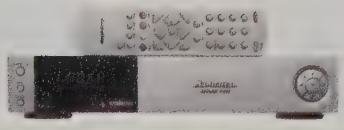
Up to 5,000 channels and 130 satellites can be stored in the memory, and there's a full-screen EPG displaying now-and-next programme info or seven days' information for individual channels where broadcast. Connectors include two Scarts, S-video and composite video outputs, and both stereo audio and optical digital audio outputs and resulting picture and sound quality (particularly from the digital audio output) are both well up to the standard of the previous model. A great budget receiver. ●●●●○

## Echostar DSB-707 FTA £160

The DSB-707 contains many of the good things we expect from Echostar. The patented Echonav menu system makes it easy to find channels, choose your AV settings, etc, and every kind of C-band and Ku-band LNB is supported. DiSEqC 1.2 is also supported and its functionality has benefited greatly from a software update. Picture and sound are excellent, and there's support for Dolby Digital audio. ●●●○○

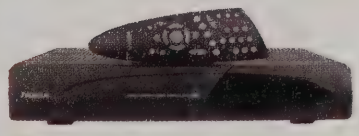
## Hyundai HSS-730 £149

DiSEqC 1.2 is included, along with a coaxial digital audio output, three stereo audio and composite video outputs and twin Scart outputs (one RGB). The receiver is plug-and-play if you're picking up Astra and Hot Bird and each satellite can be given different LNB details. You can pick basic DiSEqC commands or commands for a STAB-approved motor, and the satellite scan is quick (Hot Bird in 5 mins). ●●●●○



## Manhattan Skyline 1000 £169

The FTA cousin to the Skyline 3000 (below) is a good buy for novices. The step-by-step setup process is enhanced by easy-to-use menus and there's support for fixed dish systems and those with DiSEqC 1.2 (including USALS). Up to 50 satellites and 5,000 channels can be stored and there's a symbol rate range of 2000-45000. A now-and-next EPG and twin Scarts are just some of the other welcome features of note on this well-rounded FTA receiver. ●●●●○

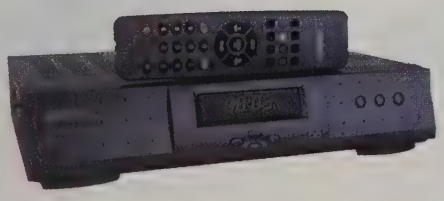


## Nokia Mediamaster DVB9450S £199

Nokia's entry-level receiver is easy to use, with looks similar to its old analogue receivers. It stores up to 2,000 channels and has DiSEqC 1.0 switching, with great picture and sound quality, a slick EPG and teletext support. But it lacks many of the features found in receivers of comparable price and quality, such as DiSEqC 1.2 and Satscan motorisation or a digital audio output. ●●●○○

# CI DIGITAL

(ALSO: Vortec VS-9000CI £250, Eurobox 9900+CI £249, ID Digital CI-20E £159, Starsat SR-X2000Ci £123, Pixx ADT3500 £199, Technibox CAM 1 Plus £263, BEC DB 6800CIP £299, Triax 262S £159)



## Echostar DSB-2200 2CI £249

An updated DSB-2200 2CI has had more than just a software update with angled vents and a darker metallic finish. There's now a coaxial digital audio output on the back panel with Dolby Digital AC-3 audio compression supported and the receiver also comes with a Viaccess CAM.

It's easy to set up a single fixed dish, multiple dishes or LNBs selected by DiSEqC, and a DiSEqC 1.2 motorised system (there is also a SMATV option). For each option there are handy signal strength and quality meters, a selection of LNB types, and the reference transponder can be altered easily. The search facility doesn't skimp on options: you can look for all channels, just the free channels, single transponders, or network search for transponders used by the same broadcaster. Up to 100 satellites and 400 channels can be stored.

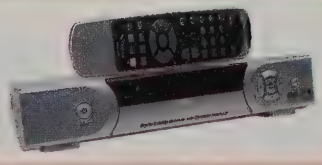
The new easy-to-use Echonav menu system uses five coloured buttons on the handset which activate corresponding menus on the screen. There's also a full DVB programme information guide and a detailed onscreen information banner. Pictures are crisp and sharp and the audio very clean. In all, a very impressive addition to the Echostar range. ●●●●○

## Manhattan Skyline 3000 £199

The 3000 has twin CI slots and has a free-to-air brother in the Manhattan Skyline 1000 (£169). Setup is easy and you can choose between DiSEqC 1.2 and what Manhattan calls DiSEqC 1.3 with USALS, which finds satellites based on a reference satellite. There's memory for 50 satellites and 5,000 channels, and sound and picture are good. ●●●●○

## Triax 262S £159

A keenly priced receiver with capacity for 2,000 channels and 59 satellites, and full support for DiSEqC 1.2.
Installation is easy, with the 262S taking about 5 mins to scan Hot Bird. It's not perfect; there's no RGB support, and no USALS either. Still, a good buy for newcomers. ●●●○○



## Strong SRT4355 Evolution £165

The SRT4355 supports DiSEqC 1.2 and has two CI slots, two Scart outputs, stereo audio and composite video outputs and an optical output (minus the AC-3 decoder for Dolby Digital). The symbol rate range of 2000-4500 is OK for SCPC and more common MCPC channels. Stores up to 3,200 TV and 1,600 radio channels on 64 satellites. Picture quality is good even with weak signals. ●●●●○

## Palcom DSL 2100 CI £157.50

The DSL 2100 CI is a great budget starter package for those entering the world of international satellite TV. It has two CI slots (located at the back of the receiver), memory for 2,000 channels and an informative channel scan screen. Other inclusions are a 12-event timer, a built-in Teletext viewer with a Tetris-style game and a detailed EPG. Sound is clean and images are exceptionally sharp. An FTA version is available for under £100. ●●●●○

# CA DIGITAL

(ALSO: Aston Simba 201S/202S £259/£299, Echostar D-2510IP-Viaccess £349, Strong SRT4400/4450 £249/£229, Sagem ISD3400 £269, Samsung DSR 9000 £348, XSat CDTV310 £289, Humax IRCI 5400/VACI 5300 £309, Nokia 210S £249, Xtreme £249)

## Force D-Master 1145S £299

The 1145S replaces the well regarded 1122S. The sleek black design remains similar to its predecessor's and features twin CI slots along with Viaccess and Seca CAMs (replacing the original Conax). A cheaper version, the 1144S, is available for £50 less, minus the Conax CAM.

The D-Master is capable of auto-locating satellites when used in conjunction with a DiSEqC motor and comes preset for use with a four-way DiSEqC switch. For ardent enthusiasts, this arrangement can be expanded using two-level DiSEqC 1.1 for up to 16 fixed LNBS. There's memory for 3,000 channels and 50 satellites and a wide symbol rate range of 2000-45000. An unlimited number of favourites lists can be created and the EPG is capable of displaying up to seven days' worth of programming information where broadcast. Connections include two Scarts, analogue phonos and both coaxial and optical digital audio outputs with AC-3 decoding for Dolby Digital broadcasts as currently featured on some German channels. The lack of manual scanning features may disappoint some enthusiasts, but this revision of the 1122S offers plenty to get excited about. ●●●●○

## Echostar DSB-808 2CI £270

Echostar's DSB-808 and its free-to-air partner, the DSB-707 (£160) have the option of an integrated Viaccess CAM, DiSEqC 1.2 motor control, and Dolby Digital audio support. The Echonav menus are fast and there's room for 4,000 channels and 100 satellites with a symbol rate range of 2000-32000. Sound and picture both meet Echostar's high standards. ●●●●○

## Nokia Mediamaster DVB9800S £399

Very capable digital satellite receiver with a Viaccess CAM, single CI and DiSEqC 1.2 and Satscan motorisation software. Sleek looks are complemented coaxial digital audio output, but no composite video phono socket. Up to 50 satellites can be controlled and channel management and navigation are among the slickest around. ●●●●○

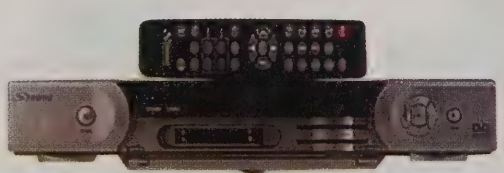
## Delta-Sat 1104IRCI £272

The 1104IRCI has a twin CI, built-in Irdeto CAM, DiSEqC 1.2 control, S-video and digital audio output. What makes it stand out is that the CAM can be re-programmed as an Allcam capable of working with almost every kind of encryption except Videoguard. There's memory for 128 satellites and 5,000 channels, 10 timers and DiSEqC 1.2 support, although there's no auto-locating option. ●●●●○

## Manhattan Starlight 6800 £299

Key features on the Starlight are a built-in positioner, DiSEqC 1.2, and an integrated Irdeto CAM along with twin CI slots. It's a slim, attractive receiver with two Scarts, composite video, S-video, stereo audio and a coaxial digital audio output. Locating satellites is easy and the great menu system makes for a good value receiver ●●●●○

# DUAL FORMAT



## Strong SRT4375 £329

Strong's flagship receiver is equipped with all the discerning enthusiast could ask; motorised satellite, auto-positioning, twin CI, digital and analogue tuning.

The slim silver case is simple yet elegant, with basic controls, a four-digit display and twin CI slots hidden behind a drawbridge flap. The back has a full range of analogue and digital connectors – four F-connectors, a 12V switch socket, three Scarts, composite video and stereo audio phonos, a serial port, UHF loopthrough, six spring-clips for positioner and mechanical polariser control.

The positioner automatically sets east and west movement limits and find satellites, with capacity for up to 64 orbital locations. Satellites can be added and searched automatically, positioning performed manually and LNBs configured, with DiSEqC 1.0 for switching fixed LNBs

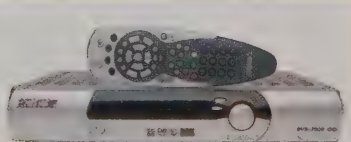
Channel search is quick and thorough, with full EPG and teletext support, and good AV quality. ●●●●○

## Echostar AD-3600IP Viaccess £500

The revision of the AD-3000 IP comes with a built-in Viaccess CAM and memory for storage of 5,700 channels and 100 satellites. The new Echonav operating system is easy to use and the pictures are sharp and clear. It comes with built-in AC3 decoding, so it can pass Dolby Digital 5.1 signals to a suitable surround sound receiver. ●●●●○

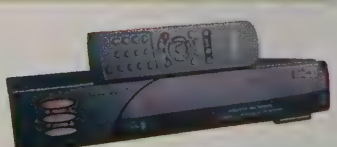
## Strong SRT4250 £249

This excellent silver analogue/digital combo has DiSEqC 1.2 software, but it's only for FTA channels. The rear panel has all the connections you'd expect for a combo, and you can have up to 64 satellites using DiSEqC 1.2. Hundreds of channels are pre-tuned in the analogue section, which has a range of audio and video tuning options. ●●●●○



## Echostar DVR-7000 £900

Echostar was one of the first makers to put out a satellite PVR and the DVR-7000 doesn't skimp on features. It has both analogue and digital satellite tuners and memory for 100 satellite and 4,700 channels. There are twin CI slots, a symbol rate range of 2000-3000, three Scarts and DiSEqC 1.0 are all supported and the receiver will also play MP3 music files. The 40GB hard disc should satisfy most users, as should picture and sound quality. ●●●●○



## Eurobox 8110-AD+CI £259

This fixed dish analogue/digital receiver has a twin CI. The back panel has the usual AV sockets and 4 F-connectors, while mechanical polarisers can be attached to three spring-clips. The menus are easy , as is setting up. The receiver supports DiSEqC 1.0 switching, and the analogue tuner uses semi-transparent menus so the effects of threshold extension and video bandwidth can be seen. ●●●●○

# DiSEqC 1.2 DIGITAL SYSTEMS

| Make and model | Combined analogue | Receiver price | Number of LNB inputs | LNB loopthrough | DISEQC | 22kHz switching | Polariser control | Number of satellite positions | Number of channels | Symbol rate | FEC | SCPC compatible | CAM | Number of card slots | Common Interface | Onscreen display | EPG | Teletext | RS232 interface | Modem output | SCSI output | Number of AV outputs | Stereo audio outputs | UHF tuning range | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aston Xena 2000 | - | £425 | 1 | ◆ | 1.2 | ◆ | Voltage | 49 | 4000 | 1800-40000 | F | ◆ | Viaccess | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | xxx xxx |
| Aston Simba | - | £259 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 3000 | 1800-40000 | - | ◆ | Seca/ Viaccess | 2 | 2 | ◆ | ◆ | ◆ | - | - | - | 2 | ◆ | 21-69 | Very easy to use pay-TV receiver |
| Delta-Sat 1104IRCI | - | £272 | 1 | ◆ | 1.2 | ◆ | Voltage | 128 | 5000 | 2000-45000 | F | ◆ | Irdeto/ Allcam | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Large memory and programmable CAM. No auto-positioning |
| Digiquest P1000 | - | £269 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 1000 | 2000-32000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | TPS customisation of fixed dish model |
| Echostar DSB1100 | - | £249 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 1500 | 2000-32000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Excellent FTA receiver |
| Echostar DSB-707 FTA | - | £260 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 1500 | 2000-32000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Good features but limited DiSEqc control |
| Echostar DSB808 Viaccess | - | £270 | 1 | ◆ | 1.2 | ◆ | Voltage | 100 | 4000 | 2000-32000 | S | ◆ | Viaccess | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Sleek-looking, but basic DiSEqC control |
| Echostar DSB2110 2Ci | - | £299 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 2000 32000 | 2000- | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Version of DSB1100 with CI – Viaccess model available |
| Force D-Master 1145S | - | £299 | 1 | ◆ | 1.2 | ◆ | Voltage | 36 | 5000 | 2000-45000 | F | ◆ | Viaccess Conax | 2 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Excellent successor to the 1122S but not an enthusiast's machine |
| Force D-Master 20445 | - | £399 | 1 | ◆ | 1.2 | ◆ | Voltage | 36 | 5000 | 1000-30000 | S | ◆ | Viaccess | 2 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Great DVD/Sat combo with bonus Viaccess CAM |
| Force D-Master 20555 | - | £449 | 1 | ◆ | 1.2 | ◆ | Voltage | 36 | 5000 | 1000-30000 | S | ◆ | Viaccess Conax | 2 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Same as 20445,but with Viaccess and Conax CAMs |
| Fortec Star DVB-786v2 | - | £130 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 3000 | 2000-45000 | F | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Very easy to use, but it can be slow to lock on |
| Humax F1-Fox | - | £229 | 1 | - | 1.2 | ◆ | Voltage | 16 | 2000 | 2000-31000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | - | Compact, high-performance FTA receiver |
| Humax IRCI5400 | - | £319 | 1 | ◆ | 1.2 | ◆ | Voltage | 16 | 4000 | 2000-31000 | S | ◆ | Irdeto | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Excellent user-friendly receiver with Irdeto pay-TV module |
| Humax VACI 5300 | - | £295 | 1 | ◆ | 1.2 | ◆ | Voltage | 16 | 4000 | 2000-31000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Excellent receiver but tricky DiSEqC 1.2 controls |
| Humax IR-Fox | - | £169 | 1 | ◆ | 1.2 | ◆ | Voltage | 32 | 2000 | 1000-45000 | S | ◆ | Irdeto | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Great value receiver with Irdeto but over-complicated motor control |
| Humax PVR-8000 | - | £420 | 1 | ◆ | 1.2 | ◆ | Voltage | 32 | 4000 | 1000-45000 | S | ◆ | - | - | 2 | ◆ | ◆ | ◆ | - | - | - | 2 | ◆ | 21-69 | Excellent value free-to-air personal video recorder |
| Hyundai HSS 800CI | - | £249 | 1 | ◆ | 1.2 | ◆ | Voltage | 32 | 3000 | 2000-31000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Fully functioning DiSECq system |
| ID Digital CI-20E | - | £159 | 1 | ◆ | 1.2 | ◆ | Voltage | 32 | 3000 | 2000-31000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | CI receiver with good performance and features |
| ID Digital F-20E | - | £139 | 1 | ◆ | 1.2 | ◆ | Voltage | 32 | 3000 | 2000-31000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Free-to-air version of thr CI-10E |
| Manhattan Starlight 6800 | - | £299 | 1 | ◆ | 1.2 | ◆ | Voltage/ current/pulse | 135 | 5000 | 2000-45000 | F | ◆ | Irdeto | 2 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 4 | ◆ | 21-69 | Well-featured, with an auto-locating built-in positioner |
| Manhattan Skyline 3000 | - | £199 | 1 | ◆ | 1.2 | ◆ | Voltage/ current/pulse | 50 | 5000 | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Full DiSEqC controls. Confusing auto-scan options |
| Nokia 210S | - | £249 | 1 | - | 1.2 | ◆ | Voltage | 50 | 3000 | 1000-45000 | F | - | Viaccess | 1 | 1 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Stunning pictures, excellent menus, needs better DiSEqC control |
| Pixx ADT3500 | - | £199 | 1 | ◆ | 1.2 | ◆ | Voltage | 16 | 2000 | 1000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | - | ◆ | - | - | 2 | ◆ | 21-69 | Simple multi-satellite receiver |
| Pixx ADT8310 | - | £250 | 1 | ◆ | 1.2 | ◆ | Voltage | 16 | 2000 | 1000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | DVD/Sat combi but DVD portion could be better |
| Samsung DSR9500 | ◆ | £249 | 1 | ◆ | 1.2 | ◆ | Voltage | 35 | 4000 | 2000-45000 | S | ◆ | Viaccess | 2 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Excellent AV features but some software bugs |
| Samsung DSR9400 | ◆ | £129 | 1 | - | 1.2 | ◆ | Voltage | 32 | 4000 | 2000-45000 | F | - | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | A fast and well-designed FTA receiver |
| Starsat SR-X40Ci | ◆ | £220 | 1 | ◆ | 1.2 | ◆ | Voltage/ Current/Pulse | 50 | 2000 | 2000-32000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Budget multi-satellite receiver but tricky to set up |
| Starsat SR-X2000 Ci Plus | - | £123 | 1 | ◆ | 1.2 | ◆ | Voltage | 32 | 6000 | 1000-45000 | S | - | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Lots of great features but you can't add new satellites |
| Strong SRT4300 | - | £279 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 1000 | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Flexible enthusiast's machine |
| Strong SRT4250 | ◆ | £299 | 3 | ◆ | 1.2 | ◆ | Voltage | 50 | 1000 | 2000-45000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Budget analogue/ digital combo |
| Strong SRT4355 | - | £165 | 1 | ◆ | 1.2 | ◆ | Voltage | 64 | 3200 | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | User-friendly, but no satellite auto-location feature |
| Televes RSD7235 | - | £165 | 1 | - | 1.2 | ◆ | Voltage | 16 | 2000 | 1000-45000 | F | - | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Limited menus, but offers full DiSEqc 1.2 control |
| Topfield TF3000IP | - | £299 | 1 | ◆ | 1.2 | ◆ | Voltage | 50 | 4000 | 2000-45000 | F | - | - | 0 | 2 | ◆ | ◆ | ◆ | - | - | - | 3 | ◆ | 21-69 | Excellent AV quality let down by quirky satellite locating features |
| Triax DVB 2605 | - | £129 | 1 | ◆ | 1.2 | ◆ | Voltage | 59 | 2000 | 1000-45000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Good performing FTA receiver but lacks RGB and USALS |
| Triax DVB 2625 | - | £159 | 1 | ◆ | 1.2 | ◆ | Voltage | 59 | 2000 | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | CI version of the 2605.Simple to use, good value for money |
| Xtreme | - | £249 | 1 | ◆ | 1.2 | ◆ | Voltage | 60 | 9000 | 1000-45000 | S | ◆ | UCAS | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | A massive memory and a Magic CAM. Excellent value |

# DIGITAL RECEIVERS

| Make and model | Combined analogue | Receiver price | Number of LNB inputs | LNB loopthrough | DiSEqC | 22KHz switching | Polariser control | Symbol rate range | FEC | SCPC compatible | CAM | Number card slots | Common Interface | Onscreen display | EPG | Teletext | RS232 interface | Modem output | SCSI output | Number AV outputs | Stereo audio outputs | UHF tuning range | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amstrad DRX400 | - | £169 | 1 | - | - | - | Voltage | 20000-27500 | S | - | Videoguard | 1 | 0 | ◆ | ◆ | ◆ | ◆ | ◆ | - | 2 | ◆ | 21-69 | One of the fastest Digiboxes around |
| Aston Xena 1500 | - | £399 | 2 | ◆ | 1.0 | ◆ | Voltage | 20000-45000 | S | ◆ | Viaccess, Seca | 2 | 1 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Best for scrambled services No PID entry |
| Benjamin DB6600CI | - | £240 | 1 | ◆ | 1.0 | ◆ | Voltage Current | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Easy-to-use basic CI receiver |
| Grundig GDS300 | - | £169 | 1 | - | - | ◆ | Voltage | 22000-27500 | S | - | Videoguard | 1 | 0 | ◆ | ◆ | ◆ | ◆ | ◆ | - | 2 | ◆ | 21-69 | Price includes mini-dish. |
| Eurobox 9900V+CI | - | £249 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-35000 | S | ◆ | Viaccess | 2 | 1 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Comprehensively featured budget receiver |
| Micronik TV Box 1000S | - | £319 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-45000 | S | ◆ | - | 4 | 0 | ◆ | ◆ | ◆ | ◆ | - | ◆ | 4 | ◆ | - | Plug-in Irdeto CAM and multiple CI modules available |
| Nokia DVB 9600S | - | £380 | 1 | - | 1.0 | ◆ | Voltage | 1000-45000 | S | ◆ | - | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | - | Great picture and sound, user-friendly but clumsy to use with a multi-satellite system |
| Nokia DVB 9800S | - | £500 | 1 | - | 1.0 | ◆ | Voltage | 1000-45000 | S | ◆ | Viaccess | 1 | 1 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Follow-up to 9600, with Viaccess, a CI slot and digital audio outputs |
| Pace 2600 BSkyB | - | £169 | 1 | - | - | - | Voltage | 2200-27500 | S | - | Videoguard | 1 | 0 | ◆ | ◆ | ◆ | ◆ | ◆ | - | 2 | ◆ | 21-69 | Looks could be better, but this is still the speediest Digibox you can get |
| Palcom DSL-2100 CI | - | £157 | 1 | - | 1.0 | - | Voltage | 4000-45000 | - | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | - | Entry-level receiver with a keen price and lots of useful features |
| Panasonic TU-DSB31 | - | £169 | 1 | - | - | - | Voltage | 22000-27500 | S | - | Videoguard | 2 | 0 | ◆ | ◆ | ◆ | - | ◆ | - | 2 | ◆ | 21-69 | A bit ugly, but still a very fast receiver |
| Philips DSI175B | - | £430 | 1 | ◆ | 1.0 | ◆ | Voltage | 27500 | F | ◆ | Seca | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | ◆ | 2 | ◆ | 21-69 | User-friendly, but quirky multi-satellite facilities |
| Praxis Pocketsat 9500 | - | £225 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-45000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 0 | ◆ | 21-69 | Pocket-sized modular FTA receiver |
| ProDX 3300A | - | £329 | 2 | ◆ | 1.0 | ◆ | Current, Voltage | 2000-45000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | - | ◆ | - | - | 3 | ◆ | 21-69 | Basic digital system with analogue features |
| RSD ODM300-CI | - | £299 | 1 | - | 1.0 | ◆ | Voltage | 2000-45000 | S | ◆ | - | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 30-45 | User-friendly enthusiast's system |
| Sagem ISD3100 | - | £249 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-30000 | S | ◆ | Seca | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Better suited to pay-TV than enthusiast's use |
| Sagem ISD3400 | - | £269 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-30000 | S | ◆ | Seca | 1 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Pay-TV receiver with OpenTV software |
| Sony VTX-S760U | - | £169 | 1 | - | - | ◆ | Voltage | 22000-27500 | S | - | Videoguard | 2 | - | ◆ | ◆ | ◆ | - | ◆ | - | 3 | ◆ | 21-69 | A speedy and very good-looking Digibox |
| Strong SRT4350 | - | £299 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Easy-to-use digital FTA system |
| Strong SRT4400 | - | £299 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-45000 | S | ◆ | Viaccess | 2 | 2 | ◆ | ◆ | ◆ | ◆ | - | ◆ | 2 | ◆ | 21-69 | Pay-TV receiver with Viaccess and twin Common Interface |
| Strong SRT4450 | - | £259 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-45000 | S | ◆ | Viaccess | 2 | 0 | ◆ | ◆ | ◆ | ◆ | - | ◆ | 2 | ◆ | 21-69 | Viaccess-only version of SRT4400 |
| Vortec VS9800CI | - | £250 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-31000 | S | ◆ | - | 2 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Successful first Samsung venture into digital satellite |
| XCom CDTV200 | - | £395 | 1 | ◆ | - | ◆ | Voltage | 15000-30000 | S | ◆ | Viaccess | 1 | 0 | ◆ | - | - | - | - | - | 3 | ◆ | - | System aimed at TPS, ABsat and Arabesque |
| Technisat CAM1 Plus | - | £222 | 1 | - | 1.1 | - | Voltage | 2000-45000 | F | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Capable CI receiver, but has a digital audio output |
| Televés RSD 7255 | - | £179 | 1 | ◆ | 1.0 | ◆ | Voltage | 1000-45000 | S | ◆ | - | 0 | 0 | ◆ | ◆ | ◆ | ◆ | - | - | 2 | ◆ | 21-69 | Basic budget, FTA receiver |
| Triax DB 65S | - | £249 | 1 | ◆ | 1.0 | ◆ | Voltage | 2000-45000 | F | ◆ | Viaccess | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | - | 3 | ◆ | 21-69 | Great value Viaccess receiver. Also has USB and digital audio outputs |

## KEY TO DIGITAL RECEIVERS

To watch digital channels you need a DVB-compliant system instead of a conventional analogue receiver. A blob in a column indicates that the receiver has the feature. Adjustments are V (variable – they can take any value within a range), S (switchable – they take one of a number of discrete values) or F (fixed – they can't be altered). Other column headings are:

**Receiver price:** Digital receivers are typically sold without a dish as it is assumed that buyers have an antenna for analogue TV reception

**CAM:** The Conditional Access Module provides the crucial conditional access technology required to decode the scrambled signals broadcast by the service provider.

**DiSEqC:** This facility enables you to control up to four LNBs (or dishes) from one LNB input.

**FEC:** Digital channels use differing Forward Error Correction rates (redundancy information signals added to digital signals to recognise and correct typical errors which occur during transmission). Selectable FEC is ideal.

**SCPC-Compatible:** Some digital channels use a whole transponder's capacity, known as Single Channel Per **Carrier.** Your digital receiver should ideally have this facility.

**Symbol rate range:** The rate varies from channel to channel. Most use 27500, but they do vary.

**Number card slots:** Digital receivers require a suitable DVB viewing card to be inserted.

**Common Interface:** This enables several CAMs to be used for reception of several digital channel packages.

**EPG:** Some receivers have access to an electronic programme guide for programme information. Teletext: If the receiver has a teletext option, you will be able to access normal text pages.

**R232 Interface:** Used to attach a computer printer or other peripherals to the receiver.

**Modem output:** Used to attach a telephone modem for accessing interactive services, when they are offered by broadcasters in the future.

**SCSI output:** High-speed data interface to allow you to link a CD-Rom, CD-player and video CDs in future.

# DIGITAL/ANALOGUE MOTORISED RECEIVERS

| Make and model | Combined analogue | Receiver price | Number of LNB inputs | LNB loopthrough | DiSEqC | 22KHz switching | Polariser control | No of satellite positions | No of channels | Symbol rate | FEC | SCPC compatible | CAM | Number card slots | Common Interface | Event timer | EPG | Teletext | Serial port | Video bandwidth | Number AV outputs | Stereo audio outputs | Digital audio outputs | UHF tuning range | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BEC DB-6800 CIP | - | £299 | 1 | ◆ | 1.2 | ◆ | Pulse/ Current/Voltage | 40 | 2000 | 2000-45000 | F | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | 2 | ◆ | - | 21-69 | Bargain, if now ageing, multi-satellite receiver ●●●●○ |
| Echostar AD3000IP | ◆ | £499 | 3 | ◆ | 1.0 | ◆ | Pulse/ Current/Voltage | 50 | 4000 | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | 3 | ◆ | - | 21-69 | Excellent analogue/digital combo. Optional Viaccess model available ●●●●○ |
| Echostar AD3600IP | ◆ | £499 | 2 | ◆ | 1.0 | ◆ | Pulse/ Current/Voltage | 100 | 5700 | 2000-32000 | S | ◆ | Viaccess | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | 3 | ◆ | ◆ | 21-69 | Combined system with dynamic but complex Echonav menus ●●●●○ |
| Echostar DVR-7000 | ◆ | £900 | 2 | ◆ | 1.0 | ◆ | Pulse/ Current/Voltage | 100 | 4700 | 2000-32000 | S | ◆ | Viaccess | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | 3 | ◆ | ◆ | 21-69 | Combo with 40GB PVR. Expensive, though ●●●●○ |
| Echostar D2510IP Viaccess | - | £449 | 1 | ◆ | 1.0 | ◆ | Pulse/ Current/Voltage | 50 | 5000 | 2000-45000 | S | ◆ | Viaccess | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | 3 | ◆ | ◆ | 21-69 | Versatile multi-satellite receiver ●●●●○ |
| Manhattan Starlight 6800 | - | £299 | 1 | ◆ | 1.2 USALS | ◆ | Pulse/ Current/Voltage | 50 | 5000 | 2000-45000 | S | ◆ | Irdeto | 1 | 2 | ◆ | ◆ | ◆ | ◆ | - | 2 | ◆ | ◆ | 21-69 | Simple but dynamic multi-satellite receiver ●●●●○ |
| Strong SRT4375 | ◆ | £399 | 3 | ◆ | 1.0 | ◆ | Pulse/ Current/Voltage | 64 | 3000 | 2000-45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | 3 | ◆ | - | 21-69 | Top-notch analogue/ digital system ●●●●○ |
| Topfield TF3000CIP | - | £299 | 1 | ◆ | 1.2 | ◆ | Pulse/ Current/Voltage | 8 | 4000 | 2000 45000 | S | ◆ | - | 0 | 2 | ◆ | ◆ | ◆ | ◆ | - | 2 | ◆ | - | 21-69 | Cheap, but rather basic multi-satellite multi-satellite receiver ●●●●○ |

## KEY TO DIGITAL/ANALOGUE MOTORISED RECEIVERS

Viewing programmes from more than one satellite usually requires a motorised system. This includes a moving dish able to point to the positions of the satellites in the sky. Also required is a positioner, which will be available as a seperate unit or, more commonly, integrated with the receiver.

As the receiver has to deal with a variety of frequency bands, broadcasting standards and audio modes, it has to be more versatile and flexible than most of the receivers designed to receive signals from the Astra satellite alone.

**Number of channels** - There are now an enormous number of TV channels radio stations broadcasting via satellite.

**Number of satellite positions** - The more positions, the better. A figure under 20 may mean that not every satellite can be programmed with the positioner.

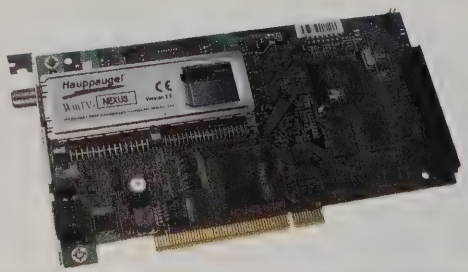
**Video bandwith** - Applicable to receivers with analogue capability. By reducing the bandwith, sparklies (small black and white flecks which appear on weak pictures can be eradicated. Either F (fixed and not capable of reduction), S (switchable or better), or V (variable).

**DiSEqC 1.2** - Dish-moving software system that controls a dish using an electrical current and is cheaper than a conventioned motorised system.

**External switch output** - Programmable 5V to 12V output to trigger an external LNB switch

**Polariser control** - Polarisers are controlled by either pulse (servo motor) , current (magnetic), or voltage (combined LNB polarisers of the Marconi type).

# PC CARD DIGITAL RECEIVERS

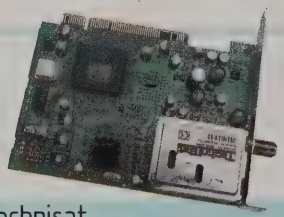


## Hauppauge Win TV Nexus-s £199

The successor to the WinTV DVB-s retains many of its predecessor's features, including an expansion slot for a Common Interface board, an onboard MPEG-2 decoder and and an internal soundcard connector and loopthrough for your CD-ROM's audio output.

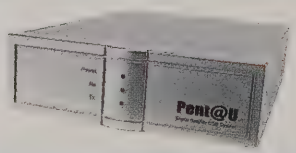
You can have up to four LNBs connected to the card through a DiSEqC switch, and there's a comprehensive list of satellites to choose from. However, there's no DiSEqC for genuine multi-satellite. Astra 1 and Hot Bird are pre-programmed and it's easy to scan for new channels. If you know that new transponders are online – or you want to add a new satellite – you can alter the underlying configuration files using Notepad. Because it's also a data receiver, the Nexus-s is pre-programmed for Europe Online and T-DSL.

Key changes over the WinTV DVB-s are in the new TV viewing software. There are no Windows-style menus (File, Edit, etc) but icons for Scan, Setup, EPG, Options and Help, a programme list (also viewable as a favourites list), volume and channel toggles, record and time-shift controls, and a now-and-next EPG. All these are arranged round the central picture, but you can view as full-screen or as an overlay without any controls around it. Picture quality is excellent even at high res (1024x768), improving on the WinTV DVB-s. ●●●●○



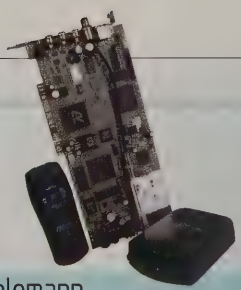
## Technisat Skystar 2 PVR £89

The upgraded Skystar 2 adds a DVB viewer and PVR software, allowing recording to the hard disc in MPEG2 format. Record on the fly, pause images, and play back MPEG2, Divx, AVI and M2V files. You can also manually set recordings or use the EPG. Supports Dolby Digital AC-3 decoding, fave channel lists and DiSEqC switching. ●●●●○



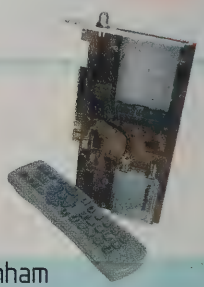

## Pentamedia PentaU £239

An external data-only unit with the convenience of a USB connection to your computer. It has an identical interface to the Pent@vision, but without the TV reception. There's a long list of satellites, and by default all transponders are set up for a universal LNB, but all tuning details can be easily changed. ●●●●○



## Telemann Skymedia 200 £299

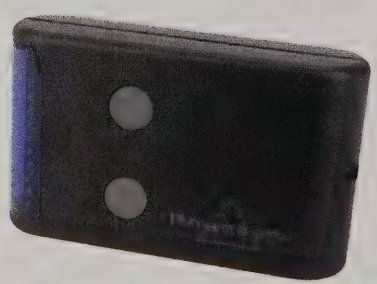
This flexible card comes with a remote control and smart card reader. Setting up satellites and tuning channels is easy, but the channel and favourites lists are unwieldy. Pictures are reasonable, but there's no EPG or teletext support. The data application is easy to use and reliable. ●●●○○



## Twinham Visionplus VP-1030 £125

The Visionplus is the first satellite PC card we've seen with the ability to drive a motorised dish, including support for basic DiSEqC 1.2 and USALS motor control. It also has a CI slot that's compatible with all current types of encryption, except Sky's Videoguard. ●●●●○

# ACCESSORIES



## Phantom PVR £25

Programming timed recordings using the Personal Planner on your Digibox has previously been the preserve of Sky Plus users. Not any more, however.

The Bluedelta Phantom PVR is a useful gadget that lets your record programmes onto your VCR using the Personal Planner without having to set the VCR timer beforehand. It's a small box that plugs into the Digibox VCR Scart and has a magnetic base which enables it to be stuck to the side of your VCR or Digibox.

When you set the Digibox Personal Planner to autoview a programme it takes the VCR Scart pin 8 high which tells the Phantom to turn on the VCR, select the satellite input and press record – all using infrared commands as though the VCR handset were being used. Any number of programmes set to Autoview in the Personal Planner can be recorded in this way. Granted, a VHS tape doesn't have the capacity of a 40GB hard disc, but the Phantom PVR is still a great to achieve some of the functionality from your Digibox currently enjoyed by owners of Sky Plus without needing to pay a £10 subscription for the privilege. Contact Digital Sales 01257 471 204. ●●●●●

## Invoca 8-in-1 Deluxe £80

Invoca is a universal remote control that is programmed to respond to voice commands. It's easy to program and works surprisingly well (if you speak clearly).

Macros can also be set up (allowing you to, say, turn on your receiver select a channel and turn up the volume just by saying a word) ●●●●○

## Pacelink Digimemo £49

The Pacelink Digimemo is a useful gadget that brings your Digibox out of standby in the event of a power cut. Powered by the 9V output available at your Digiboxes' 9V output socket, the Digimemo can select pre-determined channels from your Favourites list and there are customised units to select radio stations or 'Other' channels. ●●●○

## Lacuna Sat Meter 2 £265

An excellent tool for performing digital satellite installations, the Sat Meter 2 has memory for 13 satellite positions, and can be used for motorised installations. A small LED readout displays signal strength and picture quality and the meter has an internal rechargeable battery pack for two hours' continuous use. ●●●●○

## Sky Gamepad £19.99

A familiar games console, with an eight-way direction pad, four coloured operating buttons, and buttons for Select, Help and Back Up. Beneath are two trigger buttons. It's infrared and uses a remote sensor that plugs into the serial port on your Digibox. Up to four controllers can be used per Digibox. Call Sky Buy on 0870 555 111. ●●●○○

# DIGITAL TERRESTRIAL

## FREEVIEW ADAPTERS

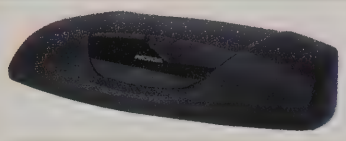
### Pace Twin Digital TV Recorder £349

The first combined personal video recorder (PVR) and digital terrestrial receiver on the market, also features a twin DTT tuner which means you can record one Freeview channel while watching another. It has a modest 20GB hard disc which is capable of storing around 10 hours of TV and radio programmes and you can schedule recordings either via the EPG or using manual timer option. Recordings can be rewound and fast forwarded at up to 64x normal speed and easily 'archived' to your VCR afterwards if needs be to save on disc space altough there are no options for setting recording quality.

As with many PVR products, there's there's an ever-handy pause live TV option which carries on recording what you watch after you press the pause button so you never miss a thing.

Both picture and sound quality are excellent and a recent software update added MHEG-5 support for using interactive services/digital teletext.

Granted the current lack of a seven-day programme information for DTT channels may limit the Pace Twin in comparison to Sky Plus, but when you factor in the absence of subscription fees or a satellite dish, you're still looking at one of the best PVRs on the market. An excellent product with very good picture and sound quality to boot. ●●●●●

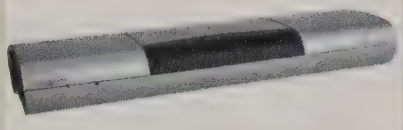


### Nokia 221T £130

One of most feature-packed Freeview adapters. The stylish scrolling Navibar menu system is where you can choose from a range of options, including picking favourites, configuring the picture, setting the eight-event timer and playing one of the games. Picture and sound quality are exceptional (the 221 T has a more sensitive tuner than most adapters), interactivity is fully supported and there's a whole range of connectors. ●●●●●

### Thomson DTI1000 £99

The DTI1000 sports a compact, set-top friendly design but still manages to cram in lots of useful features. Two Scarts and a UHF loopthrough make it easy to record digital channels while watching analogue, and there's a well-organised now-and-next EPG. Other features include an eight event manual timer. Pictures and sound are good and Interactive services and digital text are blisteringly quick to load. ●●●●○



### Netgem i-Player £130

This Freeview adapter can also be plugged into your phone line and used to surf the internet and send e-mail at local call rates. It has a full range of connectors, namely two Scarts, UHF loopthrough, optical digital/ analogue audio outputs, a 56k modem, and even a USB port (for use with a printer or webcam) along with a very intuitive menu system. Pictures and sound are first rate, and an infrared keyboard is also included. ●●●●○

### Hauppauge DEC-2000 £130

PC owners wanting to get into digital TV recording on the cheap should consider this versatile little Freeview adapter which can also be plugged into your PC and used to record programmes on to the hard disc (an hour's recording takes up about 1.6GB of drive space. You can also watch recordings from the beginning as they are being made. A little lacking in connectivity but a 'handy' device in terms of features and design. ●●●○○

## KEY TO FREEVIEW ADAPTERS/IDTVs

The phrase digital terrestrial TV (DTT for short) refers to digital TV and radio channels that can be picked up using most ordinary TV aerials. Digital signals (carried by 'multiplexes') are sent via your local TV transmitter and converted into analogue by your set top box or IDTV for displaying on your TV. At present all such channels (collectively known as Freeview) are free-to-air and therefore do not require a subscription in order to view. However, it is anticipated that other subscription or pay-per-view digital terrestrial services will start to appear in the near future.

**Analogue UHF loopthrough:** Passes standard analogue PAL TV signals to a TV or VCR.

**Auto scan:** Set-top box will automatically scan full range of UHF frequencies from channels 21-69 for digital multiplexes

**Common interface slot:** Like many satellite receivers, some DTT boxes and TVs come with Common Interface (CI) slots for inserting de-encrypting Conditional Access Modules and viewing cards required in order to view encrypted pay per view digital terrestrial services (although, at present, no such services exist).

**Digital audio output:** Usually either optical or coaxial this delivers superior audio performance to analogue outputs (ie stereo phonos) when connected to a speaker system. Ideal for radio listeners.

**Event timers:** Set-top box can be turned on to a given channel, to synchronise with VCRs

**EPG:** Uses the DVB 'electronic programme guide' standard for now-and-next onscreen listings information

**Hard disc size:** Adapters like the Pace 'Twin' are also personal video recorders (PVRs), allowing you to record programmes on to an internal computer-style hard disc.

**Letterbox:** Displays widescreen broadcasts in a cinema-style 'black bordered' form.

**Manual scan:** User can set a frequency to scan for a digital multiplexes

**MHEG-5:** Supports the software used by UK channels for digital text and other interactive services

**Modem:** Some Freeview adapters like the Netgem i-Player feature a modem, enabling you to use the internet through your TV

**Software update:** Many Freeview boxes are updated by the manufacturer with new or improved features after release. These are broadcast over the air and an onscreen message is often displayed when one is available for 'download'.

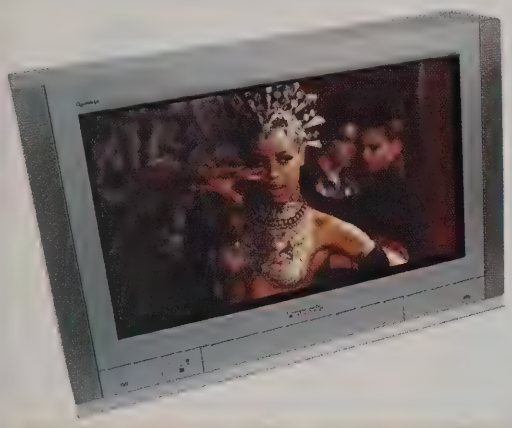
**Parental lock:** A four-digit PIN number can be used to control access to certain channels or the set-top box's control menus

**Widescreen support:** If you have a widescreen TV this will 'stretch' a conventional 4:3 TV picture to fill the screen and display 16:9 widescreen broadcasts in full screen

# FREEVIEW ADAPTERS

| Make and model | Receiver price | Analogue UHF loopthrough | Autoscan | Manual scan | Event timers | EPG | MHEG-5 | Software update | Parental lock | Modem | Hard disc size | Number AV outputs | S-video outputs | Widescreen support | Letterbox mode | Stereo audio outputs | Digital audio outputs | UHF output range | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daewoo DS608P | £100 | ◆ | ◆ | - | - | ◆ | ◆ | OTA | - | - | N/A | 1 | - | ◆ | - | - | - | 21-69 | Easy to use and comes with a sensitive Setpal tuner but lacks connectivity ●●●○○ |
| Ferguson FDT-2000 | £99 | ◆ | ◆ | ◆ | 8 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | ◆ | ◆ | ◆ | 21-69 | Almost identical to Thomson DTI 1000 inside and with lots of features, but ugly and with a poor remote ●●●○○ |
| Goodmans GBD1 | £99 | ◆ | ◆ | ◆ | 5 | ◆ | ◆ | OTA | ◆ | - | N/A | 1 | - | ◆ | ◆ | - | - | 21-69 | Functional if not the best-looking adapter on the market. There are better Goodmans adapters around ●●●○○ |
| Goodmans GBD3 | £60 | ◆ | ◆ | ◆ | 5 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | ◆ | ◆ | - | 21-69 | Cheap and cheerful adapter. Easy to use but basic features ●●●○○ |
| Grundig GDT1000/ GDT1500 | £99 | ◆ | ◆ | ◆ | 8 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | ◆ | - | - | 21-69 | The 'breadbin' or the 'brick'? Neither is pretty but both are fairly versatile ●●●○○ |
| Hauppauge DEC2000-T | £130 | ◆ | ◆ | ◆ | - | ◆ | ◆ | OTA | - | - | N/A | 2 | - | ◆ | ◆ | ◆ | - | 21-69 | A Freeview adapter that can also be used to record digital TV on your PC. Good value for the money ●●●●○ |
| Hauppauge DEC 1000-T | £99 | ◆ | ◆ | ◆ | - | ◆ | ◆ | OTA | ◆ | - | N/A | 1 | - | ◆ | ◆ | - | - | 21-69 | Bedroom-friendly brother to the DEC2000-T. Good performance but connections could be better. ●●●○○ |
| Labgear DTT100 | £100 | ◆ | ◆ | - | - | ◆ | ◆ | OTA | - | - | N/A | 1 | - | ◆ | - | - | - | 21-69 | Another adapter with a sensitive Setpal tuner. Easy to use but best suited to spare rooms ●●●○○ |
| Nebula DigiTV | £130 | ◆ | ◆ | ◆ | 50 | ◆ | ◆ | PC | ◆ | - | N/A | - | - | ◆ | - | - | - | 21-69 | PC TV box with seven-day EPG and excellent PVR features ●●●●● |
| Netgem i-Player | £150 | ◆ | ◆ | ◆ | - | ◆ | ◆ | OTA | ◆ | 56k | N/A | 2 | - | ◆ | - | ◆ | ◆ | 21-69 | Adapter with onboard internet access and a wealth of connections. What more could you want? ●●●●○ |
| Nokia 221 T | £130 | ◆ | ◆ | ◆ | 8 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | - | ◆ | ◆ | 21-69 | Nokia's Navibar system makes this well-featured Freeview adapter a joy to use ●●●●○ |
| Pace DTVA | £99 | - | ◆ | ◆ | 0 | ◆ | ◆ | OTA | - | - | N/A | 1 | - | ◆ | ◆ | - | - | N/A | One of the earliest Freeview adapters. Very plug-and-play but now showing its age ●●●○○ |
| Pace Twin Digital TV Recorder | £399 | ◆ | ◆ | ◆ | UL | ◆ | ◆ | OTA | ◆ | - | 20GB | 2 | - | ◆ | ◆ | - | ◆ | 21-69 | The first Freeview PVR is no disappointment. Easy to use with excellent sound and pictures ●●●●● |
| Panasonic TU-CT20 | £99 | ◆ | ◆ | ◆ | - | ◆ | ◆ | OTA | | - | N/A | 2 | - | ◆ | ◆ | ◆ | - | 21-69 | Flat enough to fit under your TV and with all plenty of connections to satisfy most people ●●●●○ |
| Philips DTR1500 | £100 | ◆ | ◆ | ◆ | 10 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | - | ◆ | ◆ | 21-69 | Vertical-standing adapter has much to satisfy. Not as good as the Sony adapter, though ●●●●○ |
| Samsung SIR-U200i | £99 | ◆ | ◆ | - | - | ◆ | ◆ | OTA | - | - | N/A | 2 | - | ◆ | ◆ | - | - | 21-69 | Resembles a futuristic crab (cool) and isn't too shabby on the inside, either. No audio connections ●●●●○ |
| Sony VTX-D800U | £115 | ◆ | ◆ | ◆ | 8 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | ◆ | ◆ | ◆ | 21-69 | Good performance, easy to operate, and stylish to boot ●●●●○ |
| Strong SRT-5000T | £99 | ◆ | ◆ | ◆ | 8 | ◆ | ◆ | OTA | ◆ | - | N/A | 1 | - | ◆ | - | - | - | 21-69 | Simple to set up and good for the bedroom. Tuner isn't the best we've seen in weak signal areas ●●●○○ |
| Technisat Digipal 1 | £119 | ◆ | ◆ | - | 8 | ◆ | ◆ | OTA | ◆ | ◆ | N/A | 1 | - | ◆ | - | - | - | 21-69 | Handy compact design and good performance, but lacking in features. Needs a price-cut ●●●○○ |
| Thomson DTI 1000 | £99 | ◆ | ◆ | ◆ | 8 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | ◆ | ◆ | - | 21-69 | Small and smart-looking adapter with excellent performance and connections ●●●●○ |
| Thomson DVT1100 | £199 | ◆ | ◆ | ◆ | 10 | ◆ | ◆ | OTA | ◆ | - | N/A | 2 | - | ◆ | ◆ | ◆ | ◆ | 21-69 | Freeview/DVD combi gives you the best of both worlds in one tempting and space-saving package ●●●●○ |

# INTEGRATED DIGITAL TELEVISIONS (IDTVs)



## Panasonic TX-28DTS3 £850

At under £1,000 this 28in widescreen TV with integrated Sky Digital and Freeview should be high on any digital TV fanatics' (or newcomers for that matter) shopping list. If you're happy to have a dish installed then, even without subscribing to Sky, you're guaranteed to bag dozens of free-to-air channels from Astra 2 and Panasonic's reputation for making some of the speediest Digiboxes around ensures that performance is first rate. The DTT portion, meanwhile, contains all the features you'd expect from a Freeview adapter including an EPG and digital teletext. A superb all-rounder also available as a 32in version for around £1,200. ●●●●●

## Sony KD-32DX150 £1,200

This 32in set sports a smart, angular design and lots of useful features. It's possible to record an analogue channel while a watching digital one (or vice versa) and you can schedule digital terrestrial recordings directly from the three-quarter screen EPG. Audio and visual performance is excellent while the rear sports a generous three Scarts. ●●●●○

## Toshiba 28ZT29B £1,050

This superb value widescreen 28in IDTV package is also a breeze to use; both analogue and digital pictures are first-rate, thanks to the onboard picture processing. Comprehensive sound options include Dolby Pro-Logic (speakers are included) upgradeable to Dolby Digital 5.1 which, coupled three Scarts and a CI slot for future pay-TV services ensures future-proofing. ●●●●●

## Philips 28DW6557 £800

The 28in 28DW6557 is a solid mid-range buy for DTT newcomers. There's a now-and-next EPG, along with parental lock and favourites list options and both picture and Nicam sound are above average. Two Scart connectors might seem stingy but at least having an onboard tuner means one less little black box to connect. ●●●●○

## LG DI-28FZ11 £600

Budget IDTVs are good news for uptake of Freeview, and this is a good stab at one. There's a now-and-next EPG, MHEG-5 software for interactive services, and rear connections include three Scarts, though only one is RGB. Analogue pictures are a bit of a letdown, but pictures from the digital tuner are crisp and artefact-free. A keen budget buy. ●●●○○

## IDTVs

| Make and model | Size | Price | System | EPG | MHEG-5 | Software update | Parental lock | Modem | CI slot | Number of AV outputs | Stereo audio outputs | Digital audio outputs | Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LG DI-28F211 | 28in | £600 | DTT | ◆ | ◆ | OTA | ◆ | - | 2 | 3 | ◆ | 0 | Budget-priced IDTV with plenty of features butdecidedly average picture | ●●●○○ |
| Goodmans GTW69W1DT | 28in | £430 | DTT | ◆ | ◆ | OTA | ◆ | - | 2 | 2 | ◆ | - | A budget set that has very good picture quality for the money, but poor sound | ●●●○○ |
| Panasonic TX-28DTS3 | 28in | £850 | DTT Sky | ◆ | ◆ | OTA | ◆ | ◆ | 1 | 2 | ◆ | - | Sky Digital and Freeview in one superb digital TV all-rounder | ●●●●● |
| Panasonic TX-32DT4 | 28in | £950 | DTT | ◆ | ◆ | OTA | ◆ | - | 1 | 2 | ◆ | - | Very easy to use, but a little expensive for what's on offer | ●●●○○ |
| Philips 28DW6557 | 28in | £800 | DTT | ◆ | ◆ | OTA | ◆ | - | 1 | 2 | ◆ | - | A keen price for one of the best thought out, best-performing IDTVs on the market | ●●●●○ |
| Sony KD-32DX150 | 32in | £1,050 | DTT | ◆ | ◆ | OTA | ◆ | - | 1 | 3 | ◆ | - | Super-stylish IDTV boasts a superlative picture and excellent conectivity | ●●●●○ |
| Toshiba 28ZT29B | 28in | £1,050 | DTT | ◆ | ◆ | OTA | ◆ | - | 1 | 3 | ◆ | - | Dolby Pro-Logic sound is just one of the many excellent features of this bargain IDTV | ●●●●○ |
| Toshiba 42WT29B | 42in | £2,000 | DTT | ◆ | ◆ | OTA | ◆ | - | 1 | 3 | ◆ | ◆ | A rear projection cousin to the 28ZT29B boasts plenty of features but a disappointing tuner | ●●●○○ |
| Sony KD-32DX40U | 32in- | £1,200 | DTT | ◆ | ◆ | OTA | ◆ | - | 1 | 2- | ◆ | - | Superseded by the DX150, but still a great TV in its own right | ●●●●○ |

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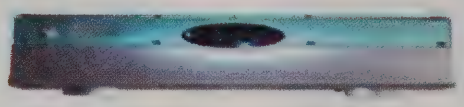
## ESR-D700



- MPEG-2 video(MP@ML) and MPEG-1,2 audio layer1 & 2
- 2 Common Interface (Irdeto,Viaccess, SECA, Nagravision, Cryptoworks, Conax and more)
- 1 UCAS programmable slot for Smart Cards (Penta etc)
- On-screen display with 256-color full resolution
- 14/18V, 0/22KHz tone and DiSEqC 1.2 / 1.0
- RS232C port for additional information service and upgrading software
- 4-digit 7-segment LED on the front panel displays channel information
- Displays local time on the front panel when it is on stand-by mode
- Displays signal level to set up the satellite antenna with ease
- OSD/VBI Teletext and Subtitle supported
- Favorite channel function
- SCPC/MCPC receivable from C/Ku band satellites
- User-friendly OSD(on-screen display) menu with full function
- Variable aspect ratio(4:3, 16:9) with Pan / Scan Vector
- Full / Simple EPG for on-screen channel information and reservation function
- Multi-lingual function when provided by the satellite and program provider
- Total 4,000 channels programmable
- S/PDIF Audio output for Dolby digital (AC-3) programs
- Price £230.00

## ESR-D800

- MPEG-2 video(MP@ML) and MPEG-1,2 audio layer1 & 2
- M1 & M2 Motor power : DC36V/3A(5A Max.)
- 2 Common Interface (Irdeto,Viaccess, SECA, Nagravision, Cryptoworks, Conax and more)
- 1 UCAS Embedded programmable slot for Smart Cards (Penta etc)
- On-screen display with 256-color full resolution
- 14/18V, 0/22KHz tone and DiSEqC 1.2 / 1.0
- RS232C port for additional information service and upgrading software
- 4-digit 7-segment LED on the front panel displays channel information
- Displays local time on the front panel when it is on stand-by mode
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- User-friendly OSD(on-screen display) menu with full function
- Variable aspect ratio(4:3, 16:9) with Pan / Scan Vector
- Full / Simple EPG for on-screen channel information and reservation function
- Multi-lingual function when provided by the satellite and program provider
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- S/PDIF Audio output for Dolby digital (AC-3) programs
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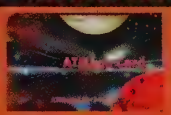
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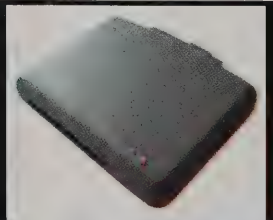

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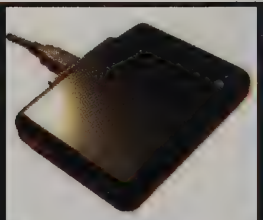

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# Computer love

PC TV DEVICES PROVIDE DIGITAL TV AND HARD DISC RECORDING ON THE CHEAP. SATELLITE & DIGITAL CHOICE PUTS SIX OF THEM TO THE TEST

Going on recent moves by Microsoft, the PC looks set to become the entertainment hub of of every computer-owning household and that includes TV.

The latest version of Windows – Windows Media Centre – comes with its own TV software, featuring a downloadable EPG and PVR (personal video recorder) software for recording TV programmes to your hard disc. Media Centre PCs come with a terrestrial PC TV card already installed for this very purpose, although only a handful of manufacturers have so far chosen to make these digital terrestrial cards.

As long-term users will know, the idea of watching and recording TV on your PC actually goes back a long way before Media Centre. Whether it is satellite TV or Freeview you want, there are plenty of products from which to choose.

Indeed, in many ways a PC TV card can be thought of as a receiver without its casing. Installing one is easy for anyone used to upgrading a graphics or sound card and it requires a spare PCI slot on your motherboard.

© SES-Astra

'Whether it is satellite TV or Freeview you want, there are plenty of products from which to choose'

Alternatively, if you're not particularly *au fait* with popping open your PC or you've maybe run out of space inside, you could always use a USB-compatible solution like the Nebula DigiTV.

Satellite PC cards have many features in common with digital satellite receivers and can often be used for both TV and internet reception. There are a growing number of satellite internet ISPs out there, most of which are 'one way' services in that they do not provide a return path (you cannot upload files). You simply dial up the ISP and request access to webpages and other downloadable material which is beamed via satellite to your desktop.

Although some sat PC cards come with provision for inserting Conditional Access Modules for watching pay-TV none of them can be used for watching Sky Digital, which uses its own method of encryption – Videoguard.

**DESKTOP DYNAMOS**

| | |
|---|---|
| Avermedia AverTV DVB-T | £79 |
| Hauppauge DEC 2000-T | £130 |
| Hauppauge WinTV Nexus-s | £199 |
| Nebula DigiTV | £130 |
| Technisat Skystar 2 PVR | £59 |
| Visionplus VP-1030 | £130 |

Digital terrestrial PC TV devices like the DEC 2000 and the Nebula DigiTV offer many of the features you'd associate with a more conventional Freeview adapter and more besides. The DigiTV, for example, has a downloadable seven-day EPG and is one of the first Freeview-ready products on the market to do so.

A feature common to all of the cards featured here is the ability to record what you watch to your computer's hard disc. Recordings are usually made in MPEG2 direct from the broadcast stream with one hour equating to around 1.5Gb of drive space.

PVR functionality is another ubiquitous inclusion, taking further advantage of your hard disc capacity by allowing you to pause live TV and then carry on watching from where you left off. Not a bad thing to have when you consider that the likes of Sky Plus and the Pace Twin offer the same functions for a good deal more money.

Whatever you buy, make sure your PC is sufficiently powerful to run it.

Pretty much any PC bought within the past two years should be up to the task of running the products reviewed here, but always (particularly in the case of the Nebula DigiTV) make sure that you have the most up-to-date software installed.

list and eight favourite lists too. Each can be displayed in full, or grouped and sorted according to relevant criteria, and even searched for words in the titles.

It's a highly flexible system, and the only way to cope with so much to access from one box. Although it takes a lot of getting used to, once mastered, the DVR7000 becomes something of a multi-media centre in your home.

## WHICH DISH?

Of course, no satellite reception is possible without the right antennas. A lot depends on the channels, and therefore the satellites that you want.

Because different satellites transmit their signal at different power levels, they need different sizes of dish for reliable reception. Where you are in the country also affects signal levels; and thus the size of dish required. You must determine if the channels you want are receivable with a dish that fits your budget, and your house wall or garden.

If you want channels from several satellites scattered across the heavens, then you are going to need either a dish farm to rival a government listening station or a motorised dish. This tracks the arc of satellites in the sky under the control of the receiver, to point to the right satellite for the required channel. A motorised dish should be as large as is needed by the weakest signal. The ultimate motorised system should not have a dish smaller than 1.2m, and the Channel Master 1.2m offset dish is a popular model.

Motorised dishes can use either a conventional polar mount or horizon-to-horizon mount types, or a DiSEqC 1.2 mount. The Echostar DVR7000 will drive only a conventional motorised mount. The only downside on this is the additional cabling needed between receiver and dish, and the higher cost of installation. The upside is that a conventional motorised mount can take a larger dish and it will move between satellites quicker. A polar mount is available for the Channel Master dish.

If your ultimate system needs only to receive signals from a couple of satellites in addition to Astra 2/Eurobird 1 for Sky Digital (after all you will get several hundreds of channels from either Astra 1 or Hot Bird), then you probably do not need to invest in a motorised dish.

You can use several fixed dishes, or even a single 'multi-feed' dish, with multiple LNBs (like the Force Frontier on page 21), to receive signals from several satellites.

Reckoning the dish size can be a bit tricky here, as dishes are less efficient picking up the secondary satellites and need to be larger than normal; it's wise to err on the generous side. In most of the country a single 80cm dish with three LNBs will pick up Sky Digital from 28°E, Astra 1 (19.2°E) and Hot Bird (13°E).

The problem with multiple LNBs is the cabling and switching. Few receivers have more than two LNB inputs and the DVR7000 effectively has just one (it's second input is for the analogue tuner and is fed from an output from the receiver) so you need some kind of switching arrangement to select the right signals for the receiver. To save on extra cabling, this switching is usually done remotely, at the dish.

The DVR7000 can operate DiSEqC switches and these are the ones to go for. These are powered and commanded using the signal cable between the receiver and the antenna so you simply mount the switch at the dish(es), wire up each LNB to a switch input and the receiver to the single output.

**DiSEqC switches: ideal if you're using multiple LNBs**

**'When a motorised dish has been aligned correctly, the DVR7000 will even automatically find any satellite and fine-tune the dish aim for the best signal'**

The DVR7000's DiSEqC switching system can select between four LNBs – any more than that would be better served with a motorised dish. When each LNB is selected it is all taken care of automatically by the DVR7000 as you change channels.

If you do need a motorised system for the ultimate satellite access – although it is possible to use that dish to receive Sky Digital as well as the other satellites – it's a better idea to keep your Sky dish separate so that you don't miss any of those Sky software updates and so all the household can enjoy the Sky channels while you're watching other satellites.

## MAKING THE SWITCH

Either way, the connections to the Sky Digital LNB should not go through the switch but have its own two cables (the Sky Plus requires two LNB inputs) as the Sky Digibox cannot operate a remote switch.

The Sky Digital and multi-satellite signals come together at the TV. Both the Sky Plus and DVR7000 have Scart connectors for this – so, if your TV can handle it, it can switch the signals. Otherwise, you will need a Scart switching box, ideally a controlled one.

Of course, that's another handset – but the remote control for both receivers can also operate your TV, and the DVR7000's can work your VCR and sound system too, so the ultimate system need not unduly clutter the coffee table.

Both receivers also have stereo audio and digital audio outputs and these can be fed to separate inputs of a suitable sound system. The Sky Plus will give Dolby Digital from some films and the DVR7000 from some European broadcasts.

And that's it – Sky Digital, hundreds of satellite channels from Europe and beyond, a library of MP3 audio tracks, digital pictures, TV and radio recordings at the press of a button. That's your ultimate system – until, of course you want that 2m dish or a second and third DVR7000 and another Sky Plus to watch more channels simultaneously; or maybe you'd like to start uplinking your own programmes.

# Jargon buster

## SATELLITE & DIGITAL CHOICE EXPLAINS THE JARGON AND TECHNICAL BUZZWORDS

**AC-3 –** Flexible audio data compression format designed by Dolby Laboratories to enable transmission of high-quality multi-channel audio such as Dolby Digital 5.1 alongside digital TV signals. A digital TV receiver with the correct hardware recognises the AC-3 signal and passes it to a digital audio output for decoding by home cinema audio equipment

**ADR (Astra Digital Radio) –** A digital audio system in MPEG-1/layer 2 for transmitting digital audio signals within convenational audio subcarriers.

**Actuator –** A motor system that drives a motorised multi-satellite dish.

**Antenna –** Device which picks up and delivers satellite signals to a receiver, most commonly called a dish.

**Apogee –** The point in a satellite's orbit when it is at its farthest distance from the Earth.

**Ariane –** A non-reusable rocket system which has launched many European satellites into space.

**Artefacts –** blocks of colour which appear in digital TV pictures, caused by either the broadcaster using too much compression or poor components in the receiver for converting the digital signal to analogue.

**Astra –** The main satellites for UK and European reception. Astra 1A-1K orbit the Earth at 19.2°E, and supply hundreds of foreign digital channels. Astra 2A-2D orbit at 28.2°E and provide the Sky Digital signals.

**AV (Audio-Visual) –** A blanket term for audio and video. An AV system is a common description of a setup in which a TV and hi-fi are connected and working in tandem – as in a home cinema system.

**Azimuth –** The horizontal angle between an antenna's reception path and a compass direction. It's usually expressed as a compass bearing or degrees east or west of south.

**Bandwidth –** Range of frequencies occupied by a signal or allowed by receiving equipment (basically, what a receiver is capable of receiving).

**Baseband –** The raw satellite TV signal before it is re-modulated into a signal which is suitable for a TV.

**Beam –** A satellite transmission pattern. It may be wide, narrow or spot.

**BER (Bit Error Rate) –** The probability of errors occurring during a digital satellite transmission.

**Broadband –** Transmission of digital audio, video or data through a high data-rate medium such as satellite, digital cable or ADSL.

**C-band –** Signal frequency range (3.70-4.20GHz) used for satellite TV in America and Africa.

**Chrominance –** The section of a TV signal that carries the picture's colour information.

**Clarke Belt –** Named after its founder Arthur C Clarke, the Clarke Belt is an orbit used by satellites at a height of 22,250 miles, in which satellites make an orbit in 24 hours, yet remain in a fixed position relative to the Earth's surface.

**Co-ax –** Name given to co-axial cable and connectors that are used for aerial and antenna cables.

**Common Interface –** A slot that enables a common interface module to be inserted in some digital receivers for watching pay-TV packages.

**Composite Video –** TV signal containing chrominance, luminance and sync information. Used in Scart connectors.

**Conditional access –** technology which prevents unauthorised viewing of TV or other content, usually by scrambling (encrypting) it and issuing a viewing card

**DBS band –** Signal frequency range (11.70-12.40GHz) intended for direct TV broadcast by satellite channels. Not all TV satellites use this band.

**DVB (Digital Video Broadcast) –** The European digital TV standard. Another letter is sometimes added (such as S in DVBS for satellite) to indicate the transmission method.

**Decoder –** Unit that is connected to a satellite receiver to unscramble a picture that's protected by encryption.

**De-emphasis –** A filter system that is integrated into a satellite receiver to reduce background audio noise, not unlike Dolby.

**Demodulator –** The section of a satellite receiver that is designed to extract both the audio and video information from an incoming signal.

**Depolariser –** A device that is used to convert circular polarised signals to linear. See Polariser.

**Digital terrestrial –** Used to describe digital TV channels which are relayed by TV transmitters to your aerial and converted into analogue for display by a set-top box (i.e. Freeview adapter). See also: Freeview.

**DiSEqC –** Facility that lets you control several LNBs or dishes from one LNB input.

**Dish –** See Antenna.

Meet *The Visitor* on Sci-Fi

**Dolby Digital –** A high-quality surround sound format using digital signals, with five surround channels and one bass channel.

**Downlink –** A signal's path from satellite to antenna.

**ECM (Electronic counter measures) –** Sent out 'over the air' occasionally by broadcasters to turn off pirate viewing cards.

**EPG –** Electronic Programme Guide that provides TV listings on screen.

**Elevation –** The vertical angle between an antenna's reception path and the horizontal.

**Encryption –** Technique of encoding a signal so that it is unwatchable without decoding equipment. Encrypted signals are usually reconstructed using a decoder and occasionally a smart card. Also known as 'scrambling'.

**Event timer –** Programmable timer built into many satellite receivers which switches on and changes channels for unattended video recording.

**FEC (Forward Error Correction) –** Redundancy information signals are added to digital signals with the aim of recognising and correcting typical errors which occur during transmission.

**F-Connector –** A screw-on plug that is commonly used for LNB-to-satellite receiver connections.

**Feedhorn –** A device that collects the signals at the focus of the satellite dish and channels them to the LNB.

**Fixed-dish system –** Satellite system in which the dish is targeted at one particular satellite, almost always Astra.

**Footprint –** An area of the Earth that is able to receive a particular satellite's signals.

**Freeview –** A package of around 40 TV and radio channels organised by the BBC, Sky, and Crown Castle. Freely available to anyone with a TV aerial and Freeview adapter.

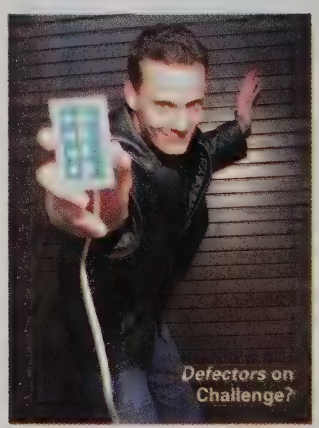
**FSS (Fixed Satellite Services) band –** Portion of the Ku-band (10.95-11.70GHz) which is the main satellite TV band.

**Geostationary orbit –** See Clarke Belt.

**Horizon-to-horizon –** A compact polar mount that allows a wide range of movement and accurate tracking of satellites.

**IRD (Integrated receiver/decoder) –** A satellite receiver with a built-in

decoder for unscrambling subscription channels such as Sky Movies.
**Ku-band –** Signal frequency range (10.70-18.00GHz) used for most European TV satellites.
**Loopthrough –** Connections on a receiver which allow for external equipment, such as decoders, to be inserted into a TV's signal path.
**LNB (Low Noise Block down-converter) –** Amplifies received signals and converts them from microwaves to lower frequency signals which are then sent along a cable to the satellite receiver.
**Luminance –** A section of a TV signal that carries the picture's brightness information.
**Magnetic polariser –** Polariser controlled by an electrical current from a satellite receiver.
**Marconi-type LNB –** A combined LNB/polariser commonly used on Astra systems with polarity selected by changing the voltage supplied by the satellite receiver to the LNB.
**Mechanical polariser –** A polariser that is controlled by electrical pulses from the receiver.
**MHEG-5 –** Software required for viewing red button interactive services including digital text. Most set-top boxes come pre-loaded with it.
**Microwave signals –** Electronic radio frequency signals that are above one gigahertz.
**Motorised system –** See Multi-satellite system.
**MPEG –** A standard of digital video compression developed by the Motion Picture Experts Group. MPEG2 is used for DVDs and most digital TV, and MPEG4 is used for streaming video using Internet or IP protocols.
**Multicast –** digital video, audio, or data transmissions broadcast over a wide area, but only available to a select group of users who can unscramble the signal.
**Multiplex –** A single data stream used to transmit several Freeview channels at once. Most use the 16QAM (Quadrature Amplitude Modulation) transmission standard to increase chances of reception. However, a few (such as those containing the ITV channels) still use the more interference-prone 64QAM.
**Multi-satellite system –** System in which a specialised receiver, in conjunction with a motorised dish, receives signals from the series of satellites in the Clarke Belt.
**Noise figure –** A measure of the performance (noise contribution) of an LNB in decibels. The lower the said figure, the better.
**NVOD (Near Video On Demand) –** Staggered broadcasting of the same TV programme on several channels.
**NTSC (National Television Standards Committee) –** TV transmission standard used in America and parts of Asia.
**Orbit –** The path a satellite takes around the Earth.
**PAL (Phase Alternate Line) –** Television system used by both British terrestrial and satellite broadcasters.
**Parental lock –** A lock found on most receivers which prevents access to certain channels. Usually operated by punching in a series of numbers.
**Phono –** Round sockets that are commonly found on the back panel of satellite receivers.
**Polariser –** Device on a dish that separates one polarity signal from another.
**Polarity –** The ability of satellite signals to differentiate between signals of similar frequencies, thus allowing more channels in the available broadcasting space. Signals are either linearly polarised (horizontal or vertical) or circularly polarised (left- and right-handed).
**Polar mount –** Multi-satellite dish mount which enables a satellite dish to track the whole of the Clarke Belt.
**Positioner –** Unit which either



Melinda Messenger has *Loose Lips* on Living TV

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Harvard House, 14-16 Thames Road, Barking, Essex.
Tel: 020 8594 5533

AMSTRAD:
Brentwood House, 169 Kings Rd, Brentwood, Essex.
Tel: 01277 228888

ASTRA UK:
7th Floor Wellington House, 125 Strand, London WC2R 0AP
Tel: 020 7420 3600

BBC WORLD/PRIME:
Woodlands, 80 Wood Lane, London W12 0TT.
Tel: 020 8576 2308

BRAVO:
See Flextech TV

BRITISH TELECOM:
West Side, London Rd, Hemel Hempstead, Herts HP3 9YF.
Tel: 150

BUSH:
5 Old Parkbury Lane, Colney Street, St Albans, Hertfordshire AL2 2DY.
Tel: 01923 859777

CAMBRIDGE INDUSTRIES:
Cambridge House, S Commerce Park, Brunnel Rd, Teale, Berkshire RG7 4AB.
Tel: 01189 306699

CANAL PLUS NETHERLANDS:
Tolaan 63, 1932 Sint-Stevens-Woluive, Belgium.
Tel: 0031 2356 81500

CARTOON NETWORK/TMC:
See Turner Broadcasting

CHALLENGE TV
See Flextech TV

CHANNEL MASTER:
Glenfield Park, Northrop Ave, Blackburn, Lancashire BB1 5QF.
Tel: 01254 680444

CHRISTIAN CHANNEL EUROPE:
3rd Floor, Crown House, Borough Road, Sunderland SR1 1HW.
Tel: 0191 4952244

CNBC:
10 Fleet Place, London EC4M 7QS.
Tel: 020 7653 9300

CNN INTERNATIONAL:
Turner House, 16 Great Marlborough Street, London W1V 1AF

CONFEDERATION OF AERIAL INDUSTRIES:
Fulton House Business Centre, Fulton Rd, Wembley Park, Middlesex HA9 0TF.
Tel: 020 8902 8998

CURRYS/DIXONS:
Currys/Dixons Store Group, Dixons House, 200 The Campus, Maylands Av., Hemel Hempstead, Hertfordshire HP2 7TG.

DEPARTMENT OF THE ENVIRONMENT, TRANSPORT AND REGIONS:
Whitehall, London SW1.
Tel: 020 7276 3000

DISCOVERY CHANNEL:
160 Great Portland Street, London W1N 57B.
Tel: 020 7462 3600

DISNEY CHANNEL:
Disney Channel, Chiswick Park, Building 12, 566 Chiswick High Road, London W4 5AN.
Tel: 020 88636 2000

DON'T PANIC TV:
See Ultra Blue

ECHOSTAR INTERNATIONAL CORPORATION:
Avda. de los Pirineos 23 28700 San Sebastian de los Reyes – Madrid – Spain.
Tel: 0031 546 815122
www.echostar-int.com

EUROSAT:
5 Oxgate Centre, Oxgate Lane, London NW2 7JA.
Tel: 0208 452 6699

EUROSPORT:
84 Theobalds Road, London WC1X 8RX.
Tel: 020 7468 7777

EUTELSAT:
70 rue Balard, 75502 Paris Cedex 15, France.
Helpdesk, Tel: 00 33 1 4065 0300

FORCE:
TPS, 180-182 Stamford Street, Ashton-under-Lyme, Lancashire OL6 7LR.
Tel: 0161 344 0123
www.tps.uk.com

FLEXTECH TV:
160 Great Portland Street, London W1N 5TB.
Tel: 020 7299 5000

GLOBAL COMMUNICATIONS:
Winterdale Manor, Althorne, Essex.
Tel: 01621 744322

GOODMANS:
Units 2 & 3, Mitchell Way, Portsmouth, Hants PO3 5PR.
Tel: 01705 673763

GRANADA SKY BROADCASTING:
16 Hatfields, London SE1 8DJ.
Tel: 020 7578 4040

Hitachi:
Hitachi Sales (UK), Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire SL8 5XF.
Tel: 01628 643000

Horizon Global Electronics:
27 Pennant Terrace, Walthamstow, London E17 5BD.
Tel: 0208 281 3777
www.horizonhge.com

HUMAX:
See Turbosat

INDEPENDENT TELEVISION COMMISSION:
33 Foley Street, London W1P 7LB.
Tel: 020 7255 3000

IRTE:
Fielding Road, Cheshunt, Herts EN8 9TL.
Tel: 01992 624777

JAPAN SATELLITE TV EUROPE:
Unit 17, Kings Exchange, Tileyard Road, London N7 9AH.
Tel: 020 7607 7677

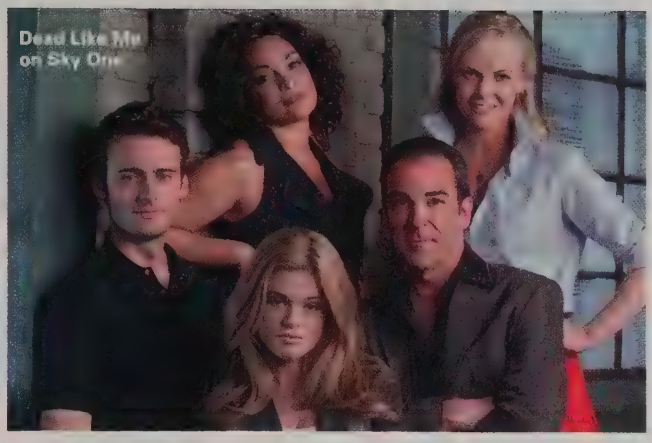
LACUNA SYSTEMS:
Unit 1-2 Bernard Way, Riverway Industrial Estate, Newport, Isle of Wight PO30 5YL.
Tel: 01983 822702
www.lacunasystems.com

LIVING:
See UK Gold.
Tel: 020 7299 5000

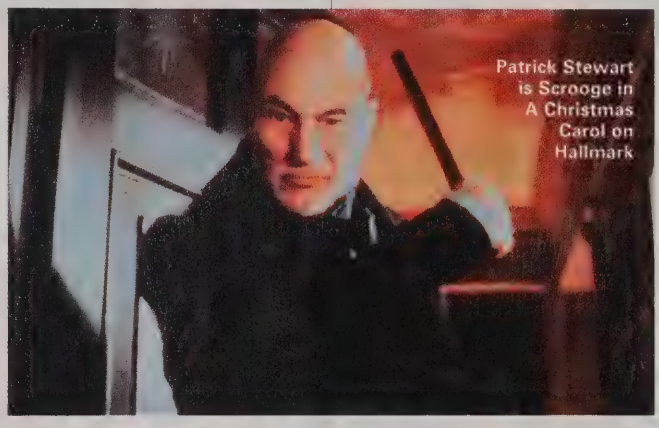
MANHATTAN:
See Eurosat

MBC:

accompanies a multi-satellite receiver or is built in and controls the movement of motorised dishes.
**Pro-Logic –** A surround sound system that was developed by Dolby for home cinema use.
**Receiver –** Unit which takes signals from a satellite dish and converts them so that they can appear on TV.
**Scart –** European 21-pin plug and socket standard to link audio-visual equipment.
**SCPC (Single Channel Per Carrier) –** Some digital channels have their own carrier frequency and thus are independent from all other signals.
**Secam –** French broadcasting system. On British PAL televisions, pictures appear in black and white.
**SES (Société Européenne des Satellites) –** An organisation that operates the Astra group of satellites.
**Skew –** Fine-tuning of the polarity which accounts for the different angles of signals from various satellites.
**Smart card –** A card used to descramble encrypted broadcasts when placed in a decoder or receiver with a built-in decoder.
**SMATV –** (satellite master antenna television) satellite TV distribution system for blocks of flats with single antenna.
**Subcarrier –** A secondary satellite signal used for an audio soundtrack. Some channels have different language commentary on three or four subcarriers, others are




occupied by radio stations.
**Telecom band –** A section of Ku-band frequencies (12.40-12.80GHz) that are used by French broadcasters.
**Terrestrial broadcasters –** Broadcasters which transmit through the airwaves from one Earthbound aerial to another, e.g. BBC and ITV.
**Threshold –** The measure of sensitivity of a satellite receiver measured in decibels (dB).
**Transcoder –** Device that translates signals from one broadcasting standard to another, e.g. PAL to Secam.
**Transponder –** Components in a satellite that receive, process and re-transmit a signal up from, and back down to, Earth. On Astra satellites most stations are allocated one transponder, though a small number of stations share a transponder.
**UHF (Ultra High Frequency) –** Signal that is fed into a television's terrestrial socket.
**Uplink –** A signal's path from the Earth to a satellite.
**VBR (Variable Bit Rate) –** The bit rate changes depending on information content and allows for a consistent picture quality.
**Videocrypt –** Encryption system which requires a decoder and smart card to be descrambled. Used by Sky and several other UK channels.
**Voltage-switched LNB –** Combined LNB/polariser commonly found on Astra systems with polarity selected by changing the voltage supplied to the LNB.
**Widescreen –** A TV or TV signal with a wider aspect ratio than the traditional TV standard. Widescreen TVs are 16:9 units across as opposed to the conventional 4:3 units across ■

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10 Heathman's Rd. London SW6 4TJ.
Tel: 020 7501 1111

MTV and VH-1:
Hawley Crescent, London NW1 8TT.
Tel: 020 7284 7777

NATIONAL GEOGRAPHIC CHANNEL:
See Sky

NATIONAL TV LICENCE RECORDS OFFICE (NTVLRO):
Barton House, Bond Street, Bristol BS98 1TL.
Tel: 01272 230130

NEWS DATACOM (NDS):
1 Heathrow Boulevard, 286 Bath Road, West Drayton, Middlesex UB7 0DQ.
Tel: 020 8476 8000

NICKELODEON UK:
15/18 Rathbone Place, London W1P 1DF.
Tel: 020 7462 1000

NOKIA:
Bridgemead Close, Westmead, Swindon, Wiltshire SN5 7TS.
Tel: 01793 556000

ONE FOR ALL:
Universal Electronics b.v.
P.O. Box 3332, 7500 DH Enschede, The Netherlands.
Tel: 0031 53 488 8000

PACE:
Victoria Road, Saltaire, Shipley BD18 3LF.
Tel: 01274 532000

PANASONIC:
Panasonic House, Willoughby Road, Bracknell, Berkshire RG12 4FP.
Tel: 01344 862444

PARAMOUNT COMEDY CHANNEL:
15-18 Rathbone Place, London W1P 1DF.
Tel: 020 7462 1000

PHILIPS:
City House, 420-430 London Road, Croydon CR9 3QR. Tel: 020 8689 4444

PHOENIX CNE:
Marvic House, Bishops Rd, London SW6 7AD. Tel: 020 7610 3880

PLAYBOY TV:
See The Adult Channel

SAMSUNG:
3 Riverbank Way, Great West Rd, Brentford, Middx TW8 9RE.
Tel: 020 8862 9311

SOLUTIONS GROUP (UK):
Unit 2, Redbourne Park, Liliput Road, Brackmills Industrial Estate, Northampton NN4 7DT. Tel: 08456 444 000

SCI-FI:
5-7 Mandeville Place, London W1U 3AR.
Tel: 020 7535 3500

SEX VIEW:
See Ultra Blue

SHARP:
Sharp House, Thorp Road, Newton Heath, Manchester M10 9BE. Tel: 0161 205 2333

SKY SUBSCRIBER SERVICES:
1 Macintosh Road, Kirkton Campus, Livingston, Scotland EH54 7BW.
Tel: 0990 102030

SKY:
6 Centaurs Business Park, Grant Way, Isleworth TW7 5QD.
Tel: 020 7705 3000

SOCIETE EUROPEENNE DES SATELLITES:
Château de Betzdorf, L-6815 Betzdorf, Luxembourg.
Tel: 00 352 7107251

SONY (UK) LTD:
The Heights, Brooklands, Weybridge, Surrey KT13 0XW.
Tel: 020 8784 1144

STRONG NEDERLAND BV:
Parkerbaan 18, 3439 MC Nieuwegein, The Netherlands.
Tel: 0031 30 630 03 11

TVBS SATELLITE CHANNEL:
30-31 Newman Street, London W1P 3PE.
Tel: 020 7636 6818

TATUNG:
Stafford Park 10, Telford, Shropshire TF3 3AB.
Tel: 01952 290111

TELEVISION-X:
PO Box 381, 4 Selsdon Way, London E14 9GL.
Tel: 020 7308 5095

THE ADULT CHANNEL/PLAYBOY TV:
(Sky Digital customers)
Tel: 08705 123321
Websites: www.theadultchannel.co.uk
www.playboytv.co.uk

TECHNISAT:
Sat Europa, Commodore Park, 15 Cador Drive, Portchester P016 9EP.
Tel: 01329 516 750
www.sateuropa.co.uk

TECHNOMATE:
328 Hoe Street, London E17 9PX.
Tel: 0208 509 2440
www.technomate.com

TELEVÉS (UK):
11 Hill Street Industrial Estate, Cwmbran, Gwent NP44 7PG. Tel: 01633 875821
www.televes.com

THOMSON CONSUMER ELECTRONICS:
9 Place des Vosges, La Défense 5, Courberroie 92050, France.
Tel: 00 331 4904 9500

TOSHIBA:
Frimley Road, Frimley, Camberley, Surrey.
Tel: 01276 62222

TRAVEL:
Landmark Travel Channel, 66 Newman Street, London W1P 3LA.
Tel: 020 7636 5401

TURBOSAT LTD:
Turbo House, 609-613 Holloway Road, London N19 4DJ. Tel: 020 7281 9258

TURNER BROADCASTING:
See CNN International

UK GOLD:
See Flextech
Tel: 020 7299 5000

ULTRA BLUE:
Mediasat, Rival House, Staplehurst Road, Sittingbourne, Kent. Tel: 07077 868686
P.O. Box 3332, 7500 DH Enschede, The Netherlands

VH-1:
See MTV

ZEE TV:
Unit 7, Belvue Business Centre, Belvue Road, Northolt UB5 5QQ. Tel: 020 8841 5112

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| Echostar DSB 880 2CI | £129 | £249 | £259 | £279 | £N/A |
| MATRIX RELOADED | £299 | £458 | £469 | £479 | £558 |
| Manhattan Starlight 6500 acss 2CI | £319 | £479 | £489 | £499 | £619 |
| ECHOSTAR 808 2CI | £169 | £299 | £309 | £319 | N/A |

All above systems come complete with Polarmount dish, Actuator & Universal LNB.

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NOKIA 9902 HDD £349

Samsung Receiver DSR9500ViaCi £199

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PACE SKY PLUS £199

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# Sky Guide

## SATELLITE & DIGITAL CHOICE PRESENTS THE DEFINITIVE GUIDE TO SUBSCRIBING TO SKY DIGITAL

When most people in the UK think of getting satellite TV they think of Sky Digital.

Indeed, owning a basic Sky system comprising a Digibox and mini-dish will get you dozens of free-to-air channels from Astra satellites and potentially dozens more if you choose to subscribe.

The cheapest and easiest way to get a Sky system is to take advantage of Sky's free equipment offer by calling Sky's In-Home Service (01732 529 920). Although the mini-dish and Digibox are free you're still required to subscribe to Sky for at least a year and to pay for installation (£60 for viewers taking the top tier Sky package and £70 for any other package).

You then book an installation date and, while you're waiting, the contracts come in the post and you can choose which package you want to start on.

You sign them and your viewing card should arrive soon afterwards. When the installer arrives he puts up the mini-dish, routes it through to the living room and connects it to the nearest phone socket.

He turns the box on and downloads the latest software, then you insert the viewing card and either you or the installer calls Sky to validate the card and you have access to the channels.

If you're buying through a High Street retailer, the process is the same except that you get a choice of Digibox (they're all the same inside).

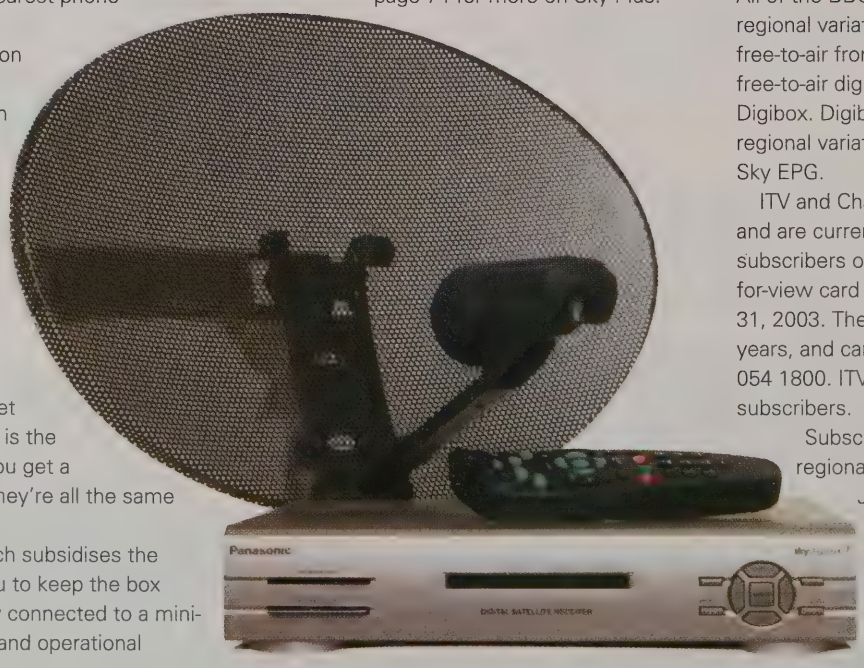
The contract which subsidises the Digibox requires you to keep the box 'fully and effectively connected to a mini-dish' and to a fixed and operational telephone line in the Territory (the UK) which is capable of making outgoing calls.

You must also keep your viewing card in the box constantly, inform Sky in writing if you move house and agree to have the system installed by a Sky-authorised installer.

If you don't want to subscribe you can get the box and dish free from Sky In-Home services, plus a £120 charge for installation, or buy a Digibox (around £299 with a mini-dish) from an independent satellite and electronics dealer without installation.

If you want Sky Plus (a combined Digibox and hard disc recorder) slightly different rules apply. Sky Plus costs £199 plus a £10 monthly fee on top of your Sky subscription (waived if you subscribe to more than one of Sky's premium channels) and £50 for installation. It requires a dish fitted with a quad LNB which can be used to feed two more Digiboxes to it if you wish.

Bear in mind that if your subscription lapses you will no longer be able to view recordings stored on the hard disc. See page 74 for more on Sky Plus.




### HOW CAN I WATCH SKY IN MORE THAN ONE ROOM?

If you want to watch two channels in two different rooms, you can buy a second Digibox from Sky for £99 adding a £50 charge for the necessary installation of a quad LNB on your dish. A subsidised second subscription viewing card will cost you £15 a month.

If you're happy to watch the same channel somewhere else, you can connect a second TV to one of the Digibox's UHF outputs and use a remote link to change the channel in another room.

Alternatively, you could use a wireless videosender to transmit the picture and sound and also relay remote control commands from your Digibox to another room. If you have Sky Plus, although it has two tuners receiving two different channels, these cannot be outputted separately to two TVs.

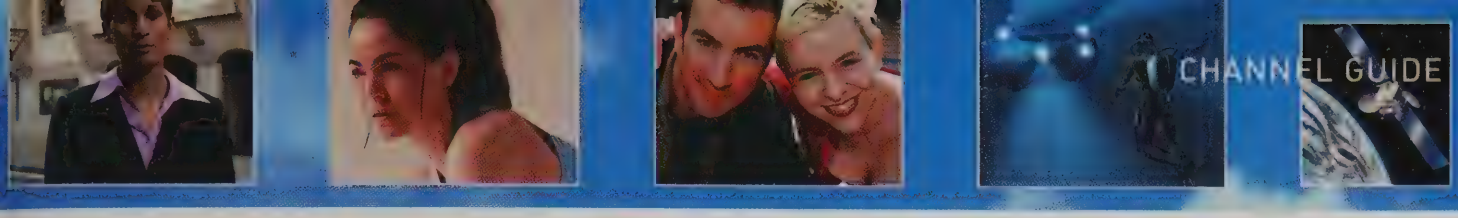
### WHAT IF I JUST WANT THE FIVE MAIN CHANNELS?

All of the BBC's digital channels (including regional variations) can now be picked up free-to-air from Astra 2D by anyone with a free-to-air digital receiver, including a Digibox. Digibox owners can find all the regional variations in the upper 900s of their Sky EPG.

ITV and Channel 4 remain 'soft encrypted' and are currently only receivable by Sky subscribers or those in possession of a free-for-view card purchased before December 31, 2003. These cost £23.50, last for two years, and can be obtained by calling 0870 054 1800. ITV2 is only available to Sky subscribers.

Subscribers wishing to receive regional variations for ITV can do so. Just select Add Channels in the System menu and enter the following information.

For Carlton, London Weekend, HTV Wales, and HTV West: 10.832HGHz/H,



symbol rate 22000, FEC 5/6. For Anglia, Border England, Border Scotland, Granada, Meridien, Tyne Tees, Yorkshire: 10.891GHz/H, symbol rate 22000, FEC 5/6. For Grampian, Scottish TV, Ulster TV and Channel TV: 10.906GHz/V, symbol rate 22000, FEC 5/6.

## WHAT EXTRA CHANNELS CAN I GET?

The standard Digibox and 45cm mini-dish provided by Sky is only really suitable for picking up channels from Astra 2 at 28.2°E and Eurobird at 28.5°E.

You cannot use the Digibox to receive encrypted channels other than those on Sky Digital.

**'A 60 cm dish will be able to pick up around 60 channels from Astra, while a 70cm dish could give you close to a hundred from Hot Bird'**

This is because it contains no form of de-encryption other than Videoguard, which is exclusive to Sky. Neither can you add your own de-encrypting CAMs for this purpose as there is no common interface slot in the Digibox specification.

If you are looking to use your Digibox for free-to-air channels you'll be better served pairing it with a larger dish.

A 60cm dish will be able to pick up around 60 channels from Astra, while a 70cm dish could give you close to a hundred from Hot Bird.

Although France's TV5 is available to subscribers, there are no other mainland European channels receivable using the basic Sky system and locating channels is further hampered by the limited symbol rate range of the Digibox (22000 or 27500).

## SKY DIGITAL SUBSCRIPTION CHARGES

| | Family | Popular Mix | Knowledge | Kids & Music | Lifestyle | Value |
|---|---|---|---|---|---|---|
| **SKY WORLD** Sky Sports 1, Sky Sports 2, Sky Movies 1-9 | £40 | £39 | £39 | £39 | £39 | £38 |
| **SKY MOVIE WORLD** Sky Movies 1-9 | £34 | £33 | £33 | £33 | £33 | £32 |
| **SKY SPORTS WORLD** Sky Sports 1, 2, 3 and Extra | £33 | £32 | £32 | £32 | £32 | £31 |
| Sky Sports 1, Sky Sports 2, Sky Movies 1, 3, 7, 9 | £38.50 | £37.50 | £37.50 | £37.50 | £37.50 | £36.50 |
| Sky Sports 1, Sky Movies Sky Movies 1-9 | £36 | £35 | £35 | £35 | £35 | £34 |
| Sky Sports 2, Sky Movies 1-9 | £36 | £35 | £35 | £35 | £35 | £34 |
| Sky Sports 1, 2 Sky Movies 2, 4, 6 8 | £33 | £32 | £32 | £32 | £32 | £31 |
| Sky Sports 1, Sky Movies 1, 3, 5, 7, 9 | £33 | £32 | £32 | £32 | £32 | £31 |
| Sky Sports 2, Sky Movies 1, 3, 5, 7, 9 | £29 | £28 | £28 | £28 | £28 | £27 |
| Sky Sports 1, Sky Movies 2, 4, 6, 8 | £29 | £28 | £28 | £28 | £28 | £27 |
| Sky Sports 2, Sky Movies 2, 4, 6, 8 | £29 | £28 | £28 | £28 | £28 | £27 |
| Sky Movies 1, 3, 5, 7, 9 | £29 | £28 | £28 | £28 | £28 | £27 |
| Sky Sports 1 | £27.50 | £26.50 | £26.50 | £26.50 | £26.50 | £25.50 |
| Sky Sports 2 | £27.50 | £26.50 | £26.50 | £26.50 | £26.50 | £25.50 |
| Sky Movies | £27 | £27 | £26 | £26 | £26 | £25 |
| Sky Entertainment Packages | £19.50 | £16.50 | £16.50 | £16.50 | £16.50 | £13.50 |

**CONTACT: SKY 08702 404040**

To subscribe to Sky Digital, pick one of the six entertainment packages below then add your Premium Channels here. Certain channels have time-delayed '+1' variations which are not shown for reasons of space.

### SKY FAMILY PACK

Sky One, Sky One Mix, UK Gold, UKG2, Living TV, Granada Plus, Challenge?, Bravo, Paramount, Sci-Fi, Discovery Home & Leisure, Men & Motors, Sky Travel, Sky Travel Extra, UK Style, UK Food, UK Drama, Hallmark, Discovery Health, E4, ITV2, E!, UK Bright Ideas, Ftn, QVC, Sky Travel Shop, Sky News, Bloomberg, CNBC, Fox News, Discovery Channel, Discovery Travel & Adventure, Discovery Civilisation, Discovery Sci-Trek, Discovery Wings, National Geographic, Adventure One, The History Channel, Biography, UK Horizons, Discovery Animal Planet, UK History, Sky Sports News, British Eurosport, Eurosportnews 24hr, Attheraces, The Amp, Scuzz, Flaunt, MTV, MTV Hits, VH1, VH1 Classic, MTV 2, MTV Base, MTV Dance, TMF, The Box, KISS, Smash Hits, Magic, Q, Kerrang!, The Hits, Music Choice, TalkSport (radio), Big Blue (radio), Cartoon Network, Toonami, Boomerang, Nickelodeon, Nick Replay, Nick Toons TV, Trouble, Fox Kids, Discovery Kids, Nick Jr

### POPULAR MIX PACK

Sky One, UK Gold, Living TV, Paramount, Discovery Home & Leisure, QVC, Sky News, Bloomberg, Discovery Channel, National Geographic, Music Choice, Cartoon Network, Nickelodeon, Nick Replay, Fox Kids

### KNOWLEDGE PACK

Sky One, Discovery Home & Leisure, QVC, Sky News, Bloomberg, CNBC, Discovery Channel, National Geographic, The History Channel, Biography, UK Horizons, Music Choice

### KIDS AND MUSIC PACK

Sky One, Discovery Home & Leisure, QVC, Sky News, Bloomberg, MTV, VH-1, MTV2, The Box, Music Choice, Cartoon Network, Nickelodeon, Nick Replay, Trouble, Fox Kids

### LIFESTYLE PACK

Sky One, Plus, Challenge?, Bravo, Sci-Fi, Discovery Home & Leisure, Men & Motors, UK Style, UK Drama, QVC, Sky News, Bloomberg, Music Choice, Trouble

### VALUE PACK

Sky One, Discovery Home & Leisure, QVC, Sky News, Bloomberg, Music Choice

### FREE RADIO

BBC: Radio One, Radio Two, Radio Three, Radio Four LW & FM, Radio Five Live, Radio Five Live Sports Extra, Radio Scotland, Radio Cymru, Radio Nan Gaidheal, Radio Wales, Radio Ulster, World Service Europe, Asian Network, 1 Xtra, 6Music, Radio 7

Commercial: 2FM, Amrit Bani, Akash Radio, Calvary, Capital FM, Capital Gold 458, Century Digital, Classic FM UK. Classic Gold Digital 828, Club Asia, Core, Costcutter Digital Radio, Cross Rhythms Radio, EWTN Radio Europe, Galaxy105, Gaydar Radio, Heart 106.2 FM, Jazz FM 102.2, LBC 97.3, Lyric FM, Mean Country1035AM, Oneword, Panjab Radio, Planet Rock, Premier Christian Radio, Primetime Radio, Radio Caroline, Real Radio, SBN, Solar Radio, Sukh Sagar Radio, Sunrise Radio 1458, Talk Gospel, Teds FM, The Dream, The Mix, The Storm, Topps FM, Total Rock, TWR, UCB Bible, UCB Europe, UCB Inspirational, UCB Talk, Virgin Radio, WRN English Europe, XFM 104.9

### A LA CARTE PREMIUM CHANNELS

Sky subscribers can also add the following premium channels to their package: Star, MUTV, Film Four, Music Choice Extra, Disney Channel, Chelsea TV, Artsworld

# Across the channels

THERE ARE NOW DOZENS OF FREE AND PAY-TV DIGITAL CHANNELS AVAILABLE ON SATELLITE TV. SATELLITE AND DIGITAL CHOICE HAS COMPILED A NO-NONSENSE GUIDE TO CHANNELS ON OFFER AT ONE OF THE MOST POPULAR LOCATIONS, ASTRA 2A, B AND D AT 28.2°E. CHANNELS MARKED WITH AN Ⓕ ARE ALSO AVAILABLE ON FREEVIEW

## FREE-TO-AIR CHANNELS

There are a growing number of channels at 28.2°E which can be received unencrypted with any digital satellite receiver. For copyright reasons, some British terrestrial channels (ITV, Five, Channel 4) can only be picked up through a Sky Digibox with a Sky viewing card.

**ACTV** Documentaries and entertainment-based fare with an Afro-Caribbean flavour **EPG:** 271

**AVAGO** Bingo-related live interactive gaming all day. Press the red button to get your cards. **EPG:** 235

**BBC ONE** General entertainment mix of comedy, docs, drama, news and sport from the public service broadcaster. **EPG:** 101 Ⓕ

**BBC TWO** Broadcasting of a highbrow nature: docs, comedy, drama and news analysis. **EPG:** 102, regional variations on 964-966 Ⓕ

**BBC THREE** Successor to BBC Choice has first-run shows, general entertainment and learning for 20s-30s. **EPG:** 115 Ⓕ

**BBC FOUR** Arts and culture content with an international flavour including nightly news from around the world. **EPG:** 161 Ⓕ

**BBC NEWS 24** The latest news from around the world 24 hours a day as it breaks. **EPG number:** 507 Ⓕ

**BBC PARLIAMENT** Coverage of our nation's leaders in the Commons, Lords and select committees. **EPG:** 508

**B4U MUSIC** The latest hits, golden oldies, charts and gossip from the people who brought you B4U Movies. **EPG:** 801

**BEN** The Big Entertainment Network offers general entertainment with religious programming from the US. **EPG:** 238

**CBBC** BBC children's programmes aimed at secondary schoolers and above, with some education amid the fun. **EPG:** 621 Ⓕ

**CBEEBIES** Tweenies, Teletubbies, Bob the Builder, plus interactive content for pre- and primary school children. **EPG:** 622 Ⓕ

**CCTV-9** English language news and entertainment from the Republic of China. **EPG:** 534

**CHANNEL U** Interactive music video channel playing dance, pop and rock music chosen by mobile-hugging teens. **EPG:** 467

**CHART SHOW TV** Round the clock chart hits from channel that used to be a TV programme. **EPG:** 455

**CHAT BOX** Text-message based interactive shenanigans for the permanently 'mobile'. **EPG:** 690

**CHRISTIAN TV** Broadcasting religious sermons and other related programmes from around the world. **EPG:** 675

**CLASSIC FM TV** Round-the-clock music videos from classical works to the latest orchestral film scores. **EPG:** 464

**CLASSICS TV** Classic movies of yesteryear, plus bios of the Hollywood legends who appeared in them. **EPG:** 247

**CNN** Non-stop current affairs from the people who invented the rolling news channel. **EPG:** 513

**EURONEWS** Pan-European news channel providing a European perspective on world events. **EPG:** 528

**EXTREME SPORTS** Mainstream sports getting you down? Extreme has every kind of reckless pursuit. **EPG:** 422

**FASHION TV** The latest fashions from around the world, featuring famous designers and glamorous models. **EPG:** 220

**FRIENDLY TV** Phone-ins, text-ins games and more on this interactive TV-friendly channel. **EPG:** 268

**GAME NATION 277** Texting, chat shows and competitions in a similar manner to Friendly TV. **EPG:** 277

**GAME NETWORK** News, previews, reviews and features on what's going on in the computer games business. **EPG:** 223

**GAYDATE** Spin-off from the Dating Channel aimed at gays and lesbians. **EPG:** 688

**THE GOD CHANNEL** Religious ministry for families. It reflects a Christian perspective and lifestyle. **EPG:** 671

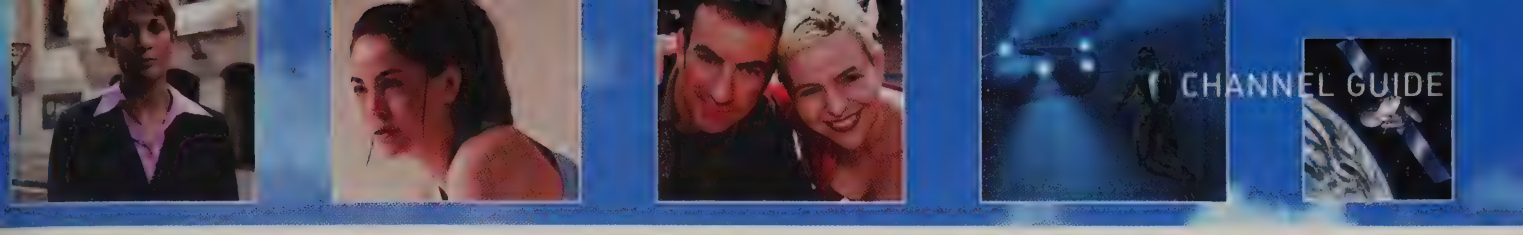
**GOING PLACES TV** Armchair tourism & booking info for that get-away, bypassing high street travel agents. **EPG:** 669

**ITV NEWS** 24-hour rolling news from the studios of ITN. **EPG:** 525 Ⓕ

**JOBS TV** Round-the-clock careers advice including tips on how to create the best CV. **EPG:** 683

**L!VE TV** The channel that gave you News Bunny returns with more off-beat 'specialist treats'. **EPG:** 274

**MOTORS TV** Top gear TV from France with tests, docs, magazine programmes, and motoring events. **EPG:** 429




**MTA-MUSLIM TV** News and documentary style-programming covering events in Muslim nations. **EPG:** 807

**OBE** Original Black Entertainment with music and drama programmes showing 24 hours a day. **EPG:** 280

**OPEN ACCESS** As the name suggests, an alternative platform for little-seen and experimental programming. **EPG:** 687

**PCNE** China's official news and entertainment channel for the West. **EPG number:** 673

**PERFORMANCE CHANNEL** The pick of global arts, with live shows and star bios. **EPG number:** 259

**POP** Children's programmes for little'uns and their parents who never quite grew up. **EPG:** 619

**RADIO CHANNELS** More than 30 radio stations in CD-quality digital audio. **EPG:** 851-896

**RAPTURE** Teen-centred mix of comedy, reality shows and other hip entertainment, plus text-messaging interludes. **EPG:** 265

**REALITY TV** When TV channels attack! Cop chases, rescues, and other real-life dramas straight from the US. **EPG:** 241

**REVELATION** Religious programming from around the world for Christians of all ages. **EPG:** 676

**S4C** News and entertainment from the land of mountains and sheep, with a good sprinkling of Welsh humour. **EPG:** 184 Ⓕ

**S4C2** Welsh Parliament channel, with news of what is going on in the Assembly that rules the Principality. **EPG:** 519 Ⓕ

**SHOPPING CHANNELS** Dozens of shopping channels are available on Astra 2A. Most can be found on the Sky EPG between channel numbers 630-700.

**SHOWCASE TV** Devoted to magazines and their publishers; UK's first general entertainment masthead channel. **EPG:** 208

**SKY NEWS** The Sky network's free, all-day news service. Hourly bulletins on breaking stories worldwide. **EPG:** 501 Ⓕ

**TBN EUROPE** Positive Christian programming, giving 'encouragement to live a joy-filled Christian life'. **EPG:** 674

**TCM** Turner Network Television presents a selection of star movies from the golden age of the silver screen. **EPG:** 327

**TEXT ME TV** Text chat via your mobile with other viewers and (if it's clean) see your message appear on screen. **EPG:** 686

**TX1** Mobiles at the ready for this text-messaging channel. **EPG:** 689

**THE COMMUNITY CHANNEL** Programming to inspire people to get involved in their communities. **EPG:** 464 Ⓕ

**THE DATING CHANNEL** What other TV network offers the opportunity to find your soulmate? Find a friend. **EPG:** 656

**THE VAULT** Classic music videos for nostalgia freaks who remember the early days of videos on MTV et al. **EPG:** 456

**THOMAS COOK TV** The holidays chain has its own 24 hour TV channel with thousand of hols for sale. **EPG:** 648

**TRAVEL CHANNEL** Globetrotting travelogues galore guaranteed to make us all wish we were there. **EPG** 181

**TRAVEL DEALS DIRECT** Holiday specials from the big tour companies and airlines, courtesy of the Travel Channel. **EPG:** 638

**TV TRAVEL SHOP** Stay in your armchair to book your holidays with this QVC-type channel. **EPG:** 631-632

**VISION CHANNEL** Sharing airspace with Life TV, the Vision Channel features sermons and songs of worship for Christian viewers. **EPG:** 202

**YOU TV** Maintain the body beautiful with a host of shows offering tips on health treatments and cosmetics. **EPG:** 229

# BASIC LINE-UP CHANNELS

The various basic subscription packages for Sky Digital now feature a huge number of channels. All the channels listed here are available in the family package, but you'll need to use our subscriptions guide in the previous two pages to discover exactly which channels are available in your package.

**ADVENTURE ONE** Thrills & spills from round the world as National Geographic documents those who dare. **EPG:** 560

**ATTHERACES** An interactive horse-racing channel covering race meetings across the UK. Have a flutter. **EPG:** 418

**BIOGRAPHY** Biographies of the rich & famous from contemporary icons to legends of the past. **EPG:** 563

**BLOOMBERG** 24-hour news service offering rolling updated news, sport, weather, business on a schedule. **EPG:** 504

**BOOMERANG** Animation from Cartoon Network's library of Hanna-Barbera shows and others. **EPG:** 603

**BRAVO** The channel for fascinating new shows and classic nostalgia for straightforward men. **EPG:** 124

**BRAVO +1** The channel for fascinating new shows and classic nostalgia for straightforward men. **EPG:** 124

**BRITISH EUROSPORT** English language version of the popular channel that highlights events from across the Continent. **EPG:** 412

**CARTOON NETWORK** Cartoons taken from libraries of classics, and archives of all main cartoon studios. **EPG:** 601/602

**CARTOON NETWORK +1** Cartoons taken from libraries of classics, and archives of all main cartoon studios. **EPG:** 601/602

**CHALLENGE?** Non-stop game show channel! Regular inserts give viewers the chance to win prizes too. **EPG:** 121

**CHANNEL 4** General entertainment with a brain from the channel that revolutionised terrestrial TV. **EPG:** 104 Ⓕ

**ANIMAL PLANET** Docs to tell you everything you ever wanted to know about all living creatures. **EPG:** 570 & 571

**ANIMAL PLANET +1** Docs to tell you everything you ever wanted to know about all living creatures. **EPG:** 570 & 571

**DEUTSCHE WELLE** Germany's long established news and entertainment channel is now on Sky. **EPG:** 834

**DISCOVERY CHANNEL** High-quality, informative, educational and entertaining programmes. **EPG:** 551-552

**DISCOVERY CHANNEL +1** High-quality, informative, educational and entertaining programmes. **EPG:** 551-552

**DISCOVERY CIVILISATIONS** Delves into the events that have forged the destiny of nations. **EPG:** 133 & 134

**DISCOVERY HEALTH** Medical docs and advice for better living from satellite's top documentaries stable. **EPG:** 196

**DISCOVERY HOME & LEISURE** Crafts, art or gardening, channel from the Discovery stable. **EPG:** 133

**DISCOVERY HOME & LEISURE +1** Crafts, art or gardening, channel from the Discovery stable. **EPG:** 133

**DISCOVERY KIDS** Formerly only available on ONdigital, Discovery's daytime of facts for kids is on satellite. **EPG:** 618

**DISCOVERY SCIENCE & ADVENTURE** Documentaries on all manner of scientific topics. **EPG:** 235

**DISCOVERY TRAVEL & ADVENTURE** Documentaries on far-flung corners of the Earth. **EPG:** 553

**DISCOVERY WINGS** Planes, planes and more planes, for those with their head in the clouds. **EPG:** 556

**E! ENTERTAINMENT TV** Celebrity heat as the 24-hour US channel tells who's doing what, and with whom. **EPG:** 250

**E4** The youth-oriented entertainment channel from E4, featuring the best US series and UK comedy. **EPG:** 205

**E4 +1** The youth-oriented entertainment channel from E4, featuring the best US series and UK comedy. **EPG:** 205

**FIVE** General entertainment. Since it is soft-scrambled on satellite you require a Videocrypt decoder to see it. **EPG:** 105 Ⓕ

**FLAUNT** Pop, dance and R'n'B videos collide with fashion tips and celeb gossip for trendy teenage girls. **EPG:** 472

**FOX KIDS NETWORK** More cartoons and fun-filled fare to keep those pesky kids quiet. **EPG:** 610-611

**FOX KIDS NETWORK +1** More cartoons and fun-filled fare to keep those pesky kids quiet. **EPG:** 610-611

**FOX NEWS** Often controversial 24-hour news channel broadcasting direct from the US arm of the Murdoch empire. **EPG:** 531

**FTN** The 'full-on entertainment' channel has new shows, plus the best of Bravo, Living, Trouble, & Challenge? **EPG:** 256 Ⓕ

**HALLMARK** Epic mini-series, kids' faves and family films in the most wholesome channel on satellite TV. **EPG:** 190

**ITV1** Popular entertainment channel whose flagship is the evergreen ratings giant Coronation Street **EPG:** 235 Ⓕ

**ITV2** The best of ITV1's programming (often shown later than on ITV1) plus American imports. **EPG:** 226 Ⓕ

**KERRANG!** Non-stop music videos programmed directly by the viewers. From the makers of The Box. **EPG:** 457

**KISS** The one-time pirate radio station now has its own commercial dance music channel with videos galore. **EPG:** 450

**LIVING TV** Aimed at women, but also picks up a sizeable number of men. Jerry Springer is its crown jewels. **EPG:** 112

**LIVING TV +1** Aimed at women, but also picks up a sizeable number of men. Jerry Springer is its crown jewels. **EPG:** 112

**MAGIC** Middle-of-the-road music videos mainly from the 1970s and 1980s on the channel that's also a radio station. **EPG:** 452

**MEN & MOTORS** Mix of motoring shows, taking in bikes, cars and extreme. Post-11pm men's shows. **EPG:** 139

**MTV IN THE UK** A mix of music with soul, rap, rock and dance music augmented with a big dose of Brit-pop. **EPG:** 440

**MTV2** Described as the 'flip side of MTV', M2 plays off-the-wall music from bands that haven't made it – yet. **EPG:** 446

**MTV BASE** MTV Base Hip hop, R'n'B and soul in MTV's funky flip-side. **EPG:** 447

**MTV DANCE** The best tunes from the big clubs, as the ultimate hotline to what's huge in this dance nation. **EPG:** 448

**MTV HITS** Mo' music and documentaries from the MTV crowd. **EPG:** 441

**MUSIC CHOICE BASIC** 10 music channels, and 30 extra premium channels for £5 a month on channel 481. **EPG:** 480

**NATIONAL GEOGRAPHIC CHANNEL** 'Enlightening programmes' on animals, natural history and life. **EPG:** 558-559

**NATIONAL GEOGRAPHIC CHANNEL+1** 'Enlightening programmes' on animals, natural history and life. **EPG:** 558-559

**NICKELODEON** Nickelodeon claims to provide the sort of TV kids want, with plenty of Sister, Sister. **EPG:** 604-605

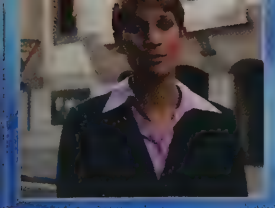
**NICK JR** The Mr Men and Bob The Builder in an all-day channel for moms and tots from the Nickelodeon stable. **EPG:** 606

**NICK REPLAY** Never miss a thing on Nickelodeon with this bonus catch-up channel. **EPG:** 605

**NICK TOONS** The most popular Nickelodeon cartoons, including Rocko and Rugrats, get a spin-off channel. **EPG:** 606

**PARAMOUNT COMEDY CHANNEL** A mix of classic and cult comedy from home and the US. **EPG:** 127

**PARAMOUNT 2** Another chance to catch the best of Paramount on this Sky One Mix-style extra channel. **EPG:** 128



**PLUS** Formerly Granada Plus and still featuring a mix of popular shows including Hart To Hart and vintage Cold Feet. **EPG:** 118

**Q** Let it rock with a non-stop video jukebox from the people who brought you The Box and Q Magazine. **EPG:** 455

**SCI-FI** Older cult science-fiction and horror series on offer alongside a range of classic and kitsch films and series. **EPG:** 130

**SCUZZ** Music channel with rock, punk and nu-metal your rebellious sibling would like & some stunts. **EPG:** 471

**SKY NEWS** Sky's 24-hour rolling news channel. **EPG:** 235 Ⓕ

**SKY ONE** General entertainment channel that boasts an impressive array of imported soaps and cult dramas. **EPG:** 106

**SKY ONE MIX** Missed your favourite Sky One show? Catch it again here along with some Sky One Mix exclusives. **EPG:** 107

**SKY SPORTS NEWS** Keep up with the latest on football transfers, fixtures news and comment on sport. **EPG:** 413 Ⓕ

**SKY TRAVEL** Suitcases at the ready for the travel channel that's part Holiday but also the home of Baywatch. **EPG:** 145 Ⓕ

**SKY TRAVEL EXTRA** Find more excuses to leave the country on this sister channel to Sky Travel. **EPG:** 146

**SMASH HITS** The teen pop bible has its own music video channel packed with Top 40-friendly tunes. **EPG:** 451

**THE AMP** Rock, pop & dance videos and profiles aimed at 20s to 30s on this music channel from Sky and XFM. **EPG:** 469

**THE BOX** Interactive music channel that allows viewers to select music videos. **EPG:** 449

**THE HISTORY CHANNEL** Docs and programmes that put major historic events into perspective. **EPG:** 561 & 562

**THE HISTORY CHANNEL +1** Docs and programmes that put major historic events into perspective. **EPG:** 561 & 562

**THE HITS** Aptly named music video channel featuring wall-to-wall chart-bound tunes. **EPG:** 458 Ⓕ

**TMF** The Music Factory to give its full name showing chart-centric videos of the day all day long. **EPG:** 448 Ⓕ

**TOONAMI** The best in American and Japanimation from the maker of Cartoon Network. **EPG:** 621

**TROUBLE** A channel aimed at teenagers that's actually quite rejuvenating for the rest of us too. **EPG:** 607

**TROUBLE RELOAD** Catch up with choice highlights from Trouble, Flextech's channel for teenagers. **EPG:** 608

**TV5 EUROPE** The best of French TV including, news, entertainment and factual programmes. **EPG:** 825

**TVE INTERNATIONAL** Serving Spanish-speaking nations across the globe, with news and entertainment. **EPG:** 835

**UK BRIGHT IDEAS** Home improvement central for fans of DIY SOS, Changing Rooms et al. **EPG:** 253 Ⓕ

**UK DRAMA** Vintage drama from the UK ranging from much-loved costume classics to modern dramas. **EPG:** 151

**UK FOOD** A smorgasbord of culinary delights from all over the world including new programming and old faves. **EPG:** 149

**UK GOLD** Devoted to BBC and Thames TV repeats, UK Gold presents classic series from terrestrial TV. **EPG:** 109 & 110

**UK GOLD +1** Devoted to BBC and Thames TV repeats, UK Gold has classic series from terrestrial TV. **EPG:** 109 & 110

**UKG2** Irreverent comedies and quiz shows for a younger audience than UK Gold. **EPG:** 111

**UK HISTORY** Brush up on history with some informative documentaries and other programming. **EPG:** 244 Ⓕ

**UK HORIZONS** The best documentaries from the Beeb's archives get an airing here. **EPG:** 564 & 565

**UK HORIZONS +1** The best documentaries from the Beeb's archives get an airing here. **EPG:** 564 & 565

**UK STYLE** Go for a makeover with shows on beauty, health and related interests. It's a woman's world here. **EPG:** 148

**VH-1/VH-1 CLASSIC** A dynamic mix of old and new rock and pop. Plus top tunes from the past on VH-1. **EPG:** 443-444

## EXTRA SUBSCRIPTION CHANNELS

**18 PLUS MOVIES** Adults-only pay-per-view erotic entertainment. **EPG:** 765-769

**ALPHA TV PUNJAB** News, entertainment, movies and sports in Punjabi for South Asian viewers. **EPG:** 818

**AMATEUR BABES** Saucy footage of 'inexperienced' girls in action. **EPG:** 988

**AL JAZEERA SATELLITE CHANNEL** World famous, occasionally controversial, 24-hour Arabic news service. **EPG:** 819

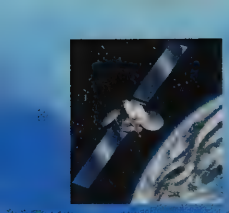
**ART MOVIES** Over 3,000 Arabic movies at your fingertips. **EPG:** 820

**ART MUSIC** Arabic music videos all day long. **EPG:** 821

**ARTSWORLD** News, listings, performance and docs for all the arts, from sculpture to world music. 199

**ARY DIGITAL** Pakistani channel offering entertainment, sport, news and religious shows from Pakistan. **EPG:** 812

**BANGLA TV** Family entertainment and news for Britain's Bangladeshi community. **EPG:** 811



**B4U MOVIES** A la carte Bollywood film channels for South Asian audiences. (B4U Direct - 823/824) **EPG:** 667

**CHELSEA TV** Keep up with all the news and match highlights direct from the heart of 'Chelski' FC. **EPG:** 427

**EROTIK** Pay-per-view adult movie entertainment from this Sky-affiliated channel. **EPG:** 771-776

**FILM FOUR** UK films from the Channel 4 archives. Also Film Four +1 and Film Four Weekly **EPG:** 323-5

**LBC** Movies, drama, sports, and entertainment on these Lebanese channel for Arabic speakers. **EPG:** 823

**MBC EUROPE** Arabic news and entertainment for the 130million Arabic speakers across the globe. **EPG:** 822

**MUTV** Presents news and views and just about everything to do with Manchester United Football Club. **EPG:** 410

**NASN** North American Sports Network: coverage of American football, basket ball, ice hockey & baseball. **EPG:** 420

**PLAYBOY + THE ADULT CHANNEL** Erotica for lovers rather than the slap 'n' tickle fare on other UK porn channels. **EPG:** 974 & 981

**POUT UNCUT TV** Erotic entertainment channel where viewers votes determine what gets shown. **EPG:** 984

**PREMIERSHIP PLUS** Keep up with all the Premiership football matches on Sky's pay-per-view sports channel. **EPG:** 433

**PRIVATE BLUE/PRIVATE GIRLS** Adult movie entertainment from the Private stable. **EPG:** 985-986

**PTV PRIME UK** 24-hour Pakistani family entertainment TV channel for all Urdu/ Punjabi-understanding people. **EPG:** 815

**RED HOT FILMS, EURO & AMATEUR** Two channels of the sauciest PPV soft porn from the Continent. **EPG:** 989-991

**SET ASIA** Asia-based news and entertainment channel. **EPG:** 802

**SETANTA SPORT** 12 hours of Gaelic football broadcast every Sunday covering the GAA championship. **EPG:** 435-436

**SOUTHFORYOU** South Asian news and entertainment channel. **EPG:** 817

**SPICE** Straight from the US, the hottest stars in the hottest exclusive movies and Spice compilations. **EPG:** 982

**STAR NEWS & STAR PLUS** Sky's eastern sister channels live and direct from Asia in English and Hindi. **EPG:** 803-804

**TANTALISE TV** Hands in pockets for more adult naughtiness. **EPG:** 989

**THE ADULT CHANNEL** Soft porn films, raunchy 'comedy' series, and wet-T-shirt-type fare. **EPG:** 974 & 981

**THE RACING CHANNEL** Could be your (nose)bag, broadcasting daily two race meetings. **EPG:** 416

**TVX – THE FANTASY CHANNEL** A soft-core porn channel presenting adult entertainment fare. **EPG:** 977

**XXX TV** Erotic entertainment promising to deliver slightly more, er, raunchy fare than rivals. **EPG:** 987

**ZEE TV, ZEE MUSIC AND ZEE CINEMA** The original channel for Asians in the UK. **EPG:** 808-810

## sky premium channels

**DISNEY CHANNEL, PLUS ONE, TOON DISNEY AND PLAYHOUSE DISNEY** **EPG:** 613-614

**SKY MOVIES** Nine premium film channels with, so the blurb goes, something for all moods. **EPG:** 301-309

**SKY SPORTS 1 + 2** Live Premiership soccer & coverage of basketball and tennis, to wrestling and motor sports. **EPG:** 401

## bonus channels

**SKY CINEMA** Featuring oldies and cult foreign fare, these two film channels are free to Sky Movies subscribers. **EPG:** 310-311

**SKY SPORTS 3 + EXTRA** Classic sports, extra coverage and interactive features on Extra **EPG:** 403-404

# Freeview

SATELLITE AND DIGITAL CHOICE PRESENTS A COMPLETE LIST OF THE TV AND RADIO CHANNELS CURRENTLY AVAILABLE ON FREEVIEW*

## TELEVISION

**BBC ONE**
EPG number: 1

**BBC TWO**
EPG number: 2

**BBC THREE**
EPG number: 7

**BBC FOUR**
EPG number: 10

**BBC NEWS 24**
EPG number: 40

**BID-UP.TV**
Bid for bargains on the long-running auction channel
EPG number: 23

**CHANNEL 4**
EPG number: 4

**FIVE**
EPG number: 5

**CBBC**
EPG number: 30

**CBEEBIES**
EPG number: 31

**COMMUNITY CHANNEL**
EPG number: 46

**FREE 2 PLAY**
Interactive gaming channel with prizes on offer
EPG number: 53

**FTN**
EPG number: 20

**ITV1**
EPG number: 3

**ITV NEWS**
EPG number: 41

**ITV2**
EPG number: 6

**QVC**
'Quality, value and convenience' from the shopping channel
EPG number: 16

**SCREENSHOP**
Shop, shop, shop from the comfort of your armchair
EPG number: 23

**S4C**
Wales only
EPG number: 4

**S4C-2**
Wales only
EPG number: 13

**SKY NEWS**
EPG number: 42

**SKY SPORTS NEWS**
EPG number: 43

**SKY TRAVEL**
EPG number: 11

**TELE G**
Gaelic-language news and entertainment for viewers in Scotland only
EPG number: 8

**THE HITS**
EPG number:18

**TMF**
EPG number: 21

**TV TRAVEL SHOP**
EPG number: 17

**UK BRIGHTIDEAS**
EPG number: 19

**UK HISTORY**
EPG number: 12

## RADIO

**BBC PARLIAMENT**
Audio coverage of proceedings from The Commons and The Lords
EPG number: 45

**BBC RADIO 1**
Trendy rock and dance for pre-thirtysomethings from the long running 'pop' station
EPG number: 70

**BBC RADIO 2**
Eclectic mix of music and culture for a more mature crowd than Radio 1
EPG number: 72

**BBC RADIO 3**
Classical, jazz, world music and more catering for 'specialist' music lovers
EPG number: 73

**BBC RADIO 4**
Arts, news, comedy and current affairs programming for the broadsheet set
EPG number: 74

**BBC RADIO WALES**
The BBC's Welsh national station, receivable in Wales only
EPG number: 89

**BBC RADIO CYMRU**
Available in Wales only
EPG number: 90

**BBC ASIAN NETWORK**
Music, news and sports coverage for the Asian community
EPG number: 79

**BBC RADIO FIVE LIVE**
News and sports coverage around the clock
EPG number: 75

**BBC RADIO FIVE LIVE SPORTS EXTRA**
More sports coverage from the Five Live spin-off
EPG number: 76

**BBC 6 MUSIC**
Nostalgic rock and pop music aimed at twenty-somethings and over
EPG number: 77

**BBC 7**
Classic plays and comedies from the BBC archives.
EPG number: 78

**BBC WORLD SERVICE**
News and documentaries with a global perspective
EPG number: 80

**JAZZ FM**
All that jazz and soul heaven
EPG number: 88

**KERRANG!**
Uber-noisy 'rock!' your teenage brother would like
EPG number: 83

**KISS 100**
Commercial dance music
EPG number: 82

**MAGIC**
MOR pop and rock music mix
EPG number: 85

**MOJO**
Soul and punk from the past 40 years
EPG number: unconfirmed

**ONEWORD**
Celebrating the written and spoken word with stories, discussion panels and more
EPG number: 87

**1 XTRA**
Urban music sounds for cruising along the high street in your 'Jeep' to
EPG number: 71

**Q**
Classic and contemporary rock and pop
EPG number: 86

**SMASH HITS**
Boy/girl band nirvana, with music and gossip
EPG number: 81

**THE HITS**
Non-stop chart hits in an audio version of the TV channel
EPG number: 84

* For further channel information see pages 94-97

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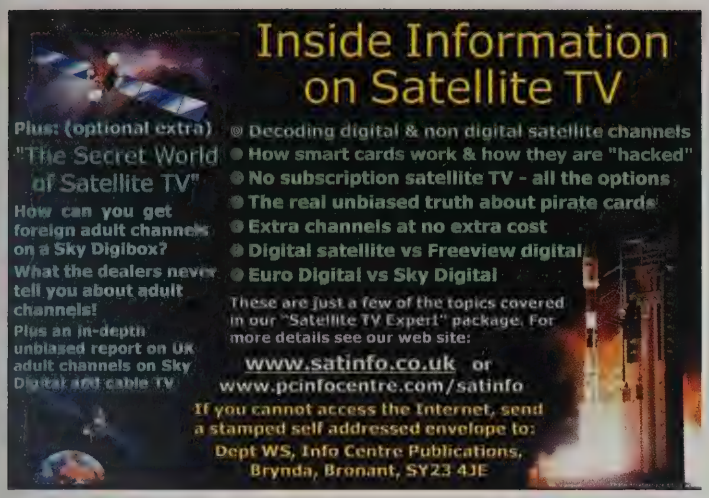
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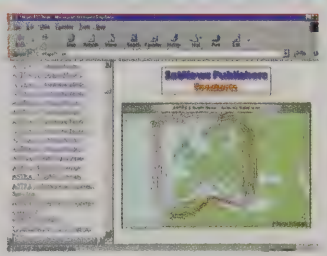

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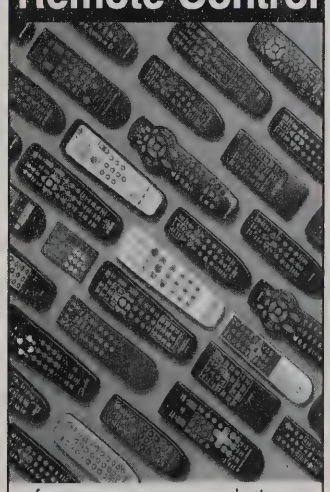

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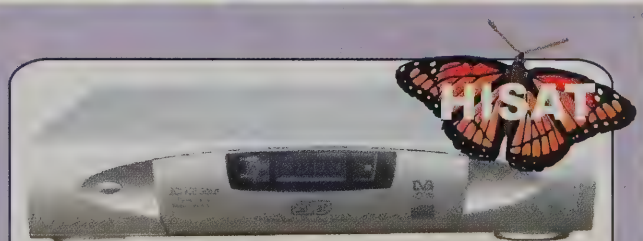


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# If I were a Rich man

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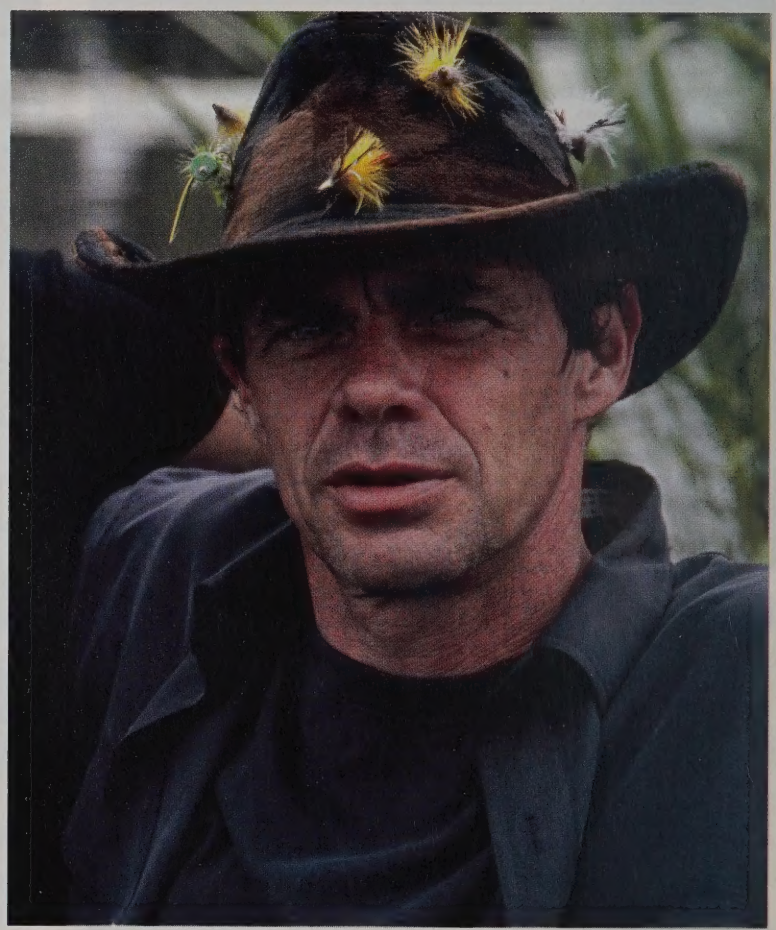

Nobody catches many fish in *The Rich Hall Fishing Show* (BBC Four), but that's not the point.

Rich says: 'It's an honest fishing show. Quite often you go out fishing and you don't catch anything. I'm a fairly avid fisherman, but when we got on to the lochs in Scotland I really didn't have the first clue of what to use to catch fish.'

Each programme focuses on one subject which Rich and his co-host Mike Wilmott discuss and debate.

'We sit in the boat, we bitch and moan and then occasionally go into these little forays of character pieces where Mike and I play different characters – just to get out of the boat now and then. So it's not all in a boat – I think that would frighten people.'

Rich thinks they manage to cover a fairly broad range of topics: 'Transportation, God, love – the topics themselves will always be around. There's one about the Olympics – cause we became enamoured with the idea of London hosting the Olympics, and then after several fact-finding missions realised what a nightmare that would be.'

There are also a few more potentially controversial issues: 'There's one that's about Americans, and the concept of freedom. Particularly as it relates to Iraq.

'I did some songs in the show – one of them's called Let's Get Together And Kill George Bush. I'm hoping nobody actually does that before it comes out. As it is his approval ratings seem to plummet weekly – but it's going to work out all right, I think. It's just a joke – I don't think anyone can look at it as a direct threat. It's clearly done for laughs.'

**'Towards the end of each show Rich and Mike invite an 'annoying' celebrity on to their tiny boat. Then they shoot them'**

Towards the end of each show Rich and Mike invite an 'annoying' celebrity on to their tiny boat. Then they shoot them (don't worry – it's not for real). In the beginning none of the celebrities knew this was going to happen.

'We purposely picked people whom we felt the majority of viewers would like to see shot. Paul Daniels, John McCririck, people like that – but then after a while I just went, "Well, we might as well tell them what we're doing". So we had Anita Roddick of The Body Shop – I just said to her point blank, "Look, we're going to take you over to that cove and my friend here in the back of the boat's going to shoot you, so you have five minutes to justify your life". She wasn't really happy about it but she did it. She did make a desperate attempt and that was actually a more honest approach.'

The humour in the show is sometimes surreal, often random and always irreverent.

'Looking back on it, it makes perfect sense to us, but there might be a curiosity of people tuning in just to see that fishing can be funny. It's an incredibly relaxing kind of comedy. I don't know if there are any awards for best scenic comedy, but I think we should definitely be nominated for one if there are. It is fantastic to look at.'

Rich says he had a lot of fun making the show. 'Sometimes we'd look out over the water and say, "Aw, we're getting paid just to sit in a boat and talk".'

**The Rich Hall Fishing Show is on BBC Four this winter**

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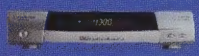
| Manhattan Starlight 7800 | Patched | £379 |
| Manhattan Starlight 7000 | Patched | £289 |
| Manhattan Starlight 6900 | Embedded MagiCam, DiSeqC 1.3, USALS. | £298 |
| Manhattan Starlight 5900 | Embedded MagiCam, DiSeqC 1.3, USALS. | £258 |
| Manhattan 3000 | 2 CI Slots | £149 |
| Manhattan 1000 | Free to air | £145 |

| | | |
|---|---|---|
| Technomate 5500D | Free to air, DiSeqC 1.2 | £99 |
| Technomate 5500CI | 2 CI Slots, DiSeqC 1.2 | £149 |
| Technomate 5500DA | Digital and analogue, DiSeqC 1.2 | £169 |
| Technomate 5500DACI | Digital and analogue, DiSeqC 1.2, 2 CI Slots | £199 |
| Technomate 5500CIP | 36v Positioner, DiSeqC 1.2, 2 CI Slots | £189 |
| Technomate 5500DAPCI | Digital and analogue, 36v Positioner, 2 CI Slots | £239 |



| | | |
|---|---|---|
| Technomate 7000 2VA/2CI | Embedded Viaccess, 2CI Slots, DiSeqC 1.2 | £179 |
| Technomate 7700IRCI | Embedded Irdeto, 2 CI Slots, DiSeqC 1.2 | £179 |

## HUMAX

| | | |
|---|---|---|
| Humax PVR8000 60gb | 2 CI Slots, 60gb Hard Disk, DiSeqC 1.2 | £399 |
| Humax PVR8000 80gb | 2 CI Slots, 80gb Hard Disk, DiSeqC 1.2 | £429 |

## sky

| | | |
|---|---|---|
| Sky+ | 15+ hours recording time via hard disk | £278 |

| | | |
|---|---|---|
| Pace BSkyB Minibox | 12v compatible, great for campers. | £179 |

## SPECIAL!
**Irdeto CAM and Satisfaction card for only £199**

## ADULT CARDS AND CAMS

| | | |
|---|---|---|
| SEX tv | Sex.TV & Gay.TV, two channels one card! Viaccess & Irdeto. | £139 |
| Spice Platinum Plus | | £129 |
| Don't Panic | On Hotbird 13 deg. E | £139 |
| Ultra Blue | On Hotbird 13 deg. E, Viaccess & Irdeto | £129 |
| RCT / SCT | Now called Satisfaction and available on Hotbird. Viaccess or Irdeto, RCT: Gay, Lesbian & Fetish SCT: 7 nights a week from Italy. NEW! Irdeto/Viaccess 3 month subscription | £129 £54.99 |
| SEX Plus VIEW | Hotbird frquency. 12092 | £149 |
| SEX VIEW TV | 24 hour hardcore, 6 new films daily. Hotbird frequency 12092H | £139 |
| BLACK ICE | Has NOZAP inside, accepts Viaccess. | £99 |
| RED ICE | Has 12 months of Don't Panic, accepts Viaccess | £119 |
| BLUE ICE | Has NOZAP & 6 months Don't Panic | £129 |
| GREEN ICE | Has 4 hot channels. Available soon. | £P.O.A. |

## SKY RECEIVERS IDEAL IN EUROPE
These are non-subsidised. They don't require a phone line.

| | | |
|---|---|---|
| Pace 2600N | Fast! - New Model | £299 |
| Panasonic TUD SB35 | With new supertuner, works anywhere in Europe | £299 |
| Amstrad DRX100 | | £99 |

## AWESOME DEALS

£299.99
NEW! Gemini Package! - Ideal for BBC
Gemini 80cm Dish, 3 LNB's, Bracket, 4-way DiSeqC Switch, DigiQuest 6700 Receiver. Receives 3 satellites with one dish. Astra1, Astra2 and Hotbird.

Manhattan Starlight 6900, SG99 Gold Motor and Sharp Gold LNB, 1m Dish. **£399.99**

SKY Digital TV Link & Remote. Controls your Sky box from another room. FREE POSTAGE! **£19.99**

**BARGAIN!** Order online (www.vo2000.com) for **£17.00**

## ADULT MEGA DEALS!

NEW LOW PRICE!
Humax IR Fox Irdeto with any adult card **£285**

Samsung DSR 9500 Viaccess Embedded with 2 CI Slots with any adult card. **£339**
Get two adults cards for only **£469**

NEW LOW PRICE!
Humax F1 Fox VA Viaccess with any adult card **£279**

SPECIAL DEAL!
DigiQuest 6700, built-in MagiCam which accepts Viaccess and Irdeto, includes any Adult card. **£319**

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# TF5000PVR

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2 Common Interface for
CONAX, CRYPTOWORKS, IRDETO, NAGRAVISION, SECA & VIACCESS

- MPEG-2 digital and fully DVB compliant
- 2 tuners
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- Capable of setting the frequency for SMATV system
- 5000 channels TV & radio programmable
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- Channel list editing
- Favorite channel list editing
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- Subtitle supported
- Teletext supported by VBI insertion and software emulation
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- Program and channel information transfer from receiver to receiver
- Firmware upgrade by Over-The-Air
- Exciting games embedded
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- Recording capacity: 44 hours for 4Mbps stream with 80GB HDD
- Powerful trick mode supported
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- Dual decoding (PIP)
- Dual recording and playback simultaneously
- Dual time-shifting & dual recording simultaneously
- MP3 (MPEG-1 Layer 3) decoding
- USB2.0 supported for fast PC

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